

AMENDMENT OF SOLICITATION/MODIFICATION OF CONTRACT				1. CONTRACT ID CODE		PAGE OF PAGES 1 33	
2. AMENDMENT/MODIFICATION NO. 0002		3. EFFECTIVE DATE 19-Sep-2001		4. REQUISITION/PURCHASE REQ. NO. W16ROE-1193-8520		5. PROJECT NO.(If applicable)	
6. ISSUED BY CONTRACTING DIVISION US ARMY CORPS OF ENG, NYD ATTN: CENANCT, ROOM 1843 26 FEDERAL PLAZA NEW YORK NY 10278		CODE DACA51		7. ADMINISTERED BY (If other than item 6) See Item 6		CODE	
8. NAME AND ADDRESS OF CONTRACTOR (No., Street, County, State and Zip Code)				X		9A. AMENDMENT OF SOLICITATION NO. DACA51-01-B-0022	
				X		9B. DATED (SEE ITEM 11) 21-Aug-2001	
						10A. MOD. OF CONTRACT/ORDER NO.	
						10B. DATED (SEE ITEM 13)	
CODE		FACILITY CODE					
11. THIS ITEM ONLY APPLIES TO AMENDMENTS OF SOLICITATIONS							
<input checked="" type="checkbox"/> The above numbered solicitation is amended as set forth in Item 14. The hour and date specified for receipt of Offer <input checked="" type="checkbox"/> is extended, <input type="checkbox"/> is not extended. Offer must acknowledge receipt of this amendment prior to the hour and date specified in the solicitation or as amended by one of the following methods: (a) By completing Items 8 and 15, and returning <u>2</u> copies of the amendment; (b) By acknowledging receipt of this amendment on each copy of the offer submitted; or (c) By separate letter or telegram which includes a reference to the solicitation and amendment numbers. FAILURE OF YOUR ACKNOWLEDGMENT TO BE RECEIVED AT THE PLACE DESIGNATED FOR THE RECEIPT OF OFFERS PRIOR TO THE HOUR AND DATE SPECIFIED MAY RESULT IN REJECTION OF YOUR OFFER. If by virtue of this amendment you desire to change an offer already submitted, such change may be made by telegram or letter, provided each telegram or letter makes reference to the solicitation and this amendment, and is received prior to the opening hour and date specified.							
12. ACCOUNTING AND APPROPRIATION DATA (If required)							
13. THIS ITEM APPLIES ONLY TO MODIFICATIONS OF CONTRACTS/ORDERS. IT MODIFIES THE CONTRACT/ORDER NO. AS DESCRIBED IN ITEM 14.							
A.THIS CHANGE ORDER IS ISSUED PURSUANT TO: (Specify authority) THE CHANGES SET FORTH IN ITEM 14 ARE MADE IN THE CONTRACT ORDER NO. IN ITEM 10A.							
B.THE ABOVE NUMBERED CONTRACT/ORDER IS MODIFIED TO REFLECT THE ADMINISTRATIVE CHANGES (such as changes in paying office, appropriation date, etc.) SET FORTH IN ITEM 14, PURSUANT TO THE AUTHORITY OF FAR 43.103(B).							
C.THIS SUPPLEMENTAL AGREEMENT IS ENTERED INTO PURSUANT TO AUTHORITY OF:							
D.OTHER (Specify type of modification and authority)							
E. IMPORTANT: Contractor <input type="checkbox"/> is not, <input type="checkbox"/> is required to sign this document and return _____ copies to the issuing office.							
14. DESCRIPTION OF AMENDMENT/MODIFICATION (Organized by UCF section headings, including solicitation/contract subject matter where feasible.) This solicitation is amended as follows: 1. To change the bid opening date, from 20 Sep 01, to 25 Sep 01, time to remain the same as 1400 hours, local time; 2. To revise/incorporate changes as identified on the continuation page of this amendment; 3. The location for the bid opening of bids have been changed. The bid opening location shall be held at Building 301, Fort Hamilton Military Community, Brooklyn, New York. All attending bidders shall possess proper identification, e.g. driver's licenses, passports, official state identification cards, etc., to access Fort Hamilton. Additional information is provided on the SF30 Continuation Page. 4. All other provisions of this solicitation remain the same and unchanged.							
Except as provided herein, all terms and conditions of the document referenced in Item 9A or 10A, as heretofore changed, remains unchanged and in full force and effect.							
15A. NAME AND TITLE OF SIGNER (Type or print)				16A. NAME AND TITLE OF CONTRACTING OFFICER (Type or print)			
15B. CONTRACTOR/OFFEROR		15C. DATE SIGNED		16B. UNITED STATES OF AMERICA		16C. DATE SIGNED	
_____ (Signature of person authorized to sign)				BY _____ (Signature of Contracting Officer)		19-Sep-2001	

SECTION SF 30 BLOCK 14 CONTINUATION PAGE

SUMMARY OF CHANGES

Changes in Solicitation/Contract/Order Form

The required response date/time has changed from 24-Sep-2001 14:00 to 25-Sep-2001 14:00

Changes in Section 00010

CLIN 0001

The CLIN extended description has changed from All labor, materials, equipment and plant and all incidentals for the Seismic Retrofit of the West Stands at Michie Stadium, Phase II, as per the Contract Drawings and Specification excluding CLINs 0002-0004.

to All labor, materials, equipment and plant and all incidentals for the Seismic Retrofit of the West Stands at Michie Stadium, Phase II, as per the Contract Drawings and Specification excluding CLINs 0002-0005.

CLIN 0002

The CLIN type has changed from informational to priced

The CLIN description has changed from OPTIONAL UPGRADES to FIBERWRAP INSTALLATION EFFORT

The CLIN extended description has changed from All labor, materials & equipment for all work identified spec section 03350 and the plans A - 1.00 and A - 6.00 thru A - 11.00 as Optional Item 1.

to All labor, materials equipment and plant associated with all work to be performed by Fyfe Co. LLC.
The Option set forth in CLIN 0002 has been exercised

CLIN 0003

The CLIN extended description has changed from All labor, materials & equipment for all work identified as Bid Option 2 on sheet A -1.00 and A - 5.00.- A-5.01.

to

All labor, materials & equipment for all work identified in section 800.1 (a)(i) as the base bid for the optional items.

SUB-CLIN 0003AA was added.

SUB-CLIN 0003AB was added.

SUB-CLIN 0003AC was added.

SUB-CLIN 0003AD was added.

SUB-CLIN 0003AE was added.

SUB-CLIN 0003AF was added.

SUB-CLIN 0003AG was added.

SUB-CLIN 0003AH was added.

CLIN 0004

The CLIN extended description has changed from All labor, materials & equipment for all work identified as Bid Option 3 on sheet A.-1.00 and A.3.00.
to All labor,
materials & equipment for all work identified Bid Option 2 on Sheet A - 1.00 and A
- 5.00 thru A - 5.01.

CLIN 0005 was added.

CLIN 0001AA was deleted.

CLIN 0002AA was deleted.

CLIN 0002AB was deleted.

CLIN 0002AC was deleted.

CLIN 0002AD was deleted.

CLIN 0002AE was deleted.

CLIN 0002AF was deleted.

CLIN 0002AG was deleted.

CLIN 0002AH was deleted.

Revised Section 00010 – Bid Schedule

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
0001	MICHIE STADIUM SEISMIC UPGRADES, PHASE II	1.00	Lump Sum		
	All labor, materials, equipment and plant and all incidentals for the Seismic Retrofit of the West Stands at Michie Stadium, Phase II, as per the Contract Drawings and Specification excluding CLINs 0002-0005.				
	NET AMT				

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
0002	FIBERWRAP INSTALLATION EFFORT	1.00	Lump Sum		
	All labor, materials equipment and plant associated with all work to be performed by Fyfe Co. LLC.				
	NET AMT				

BASE BID TOTAL (CLIN 0001 & 0002) _____

OPTIONAL LINE ITEMS MAY BE EXERCISED FOR AWARD

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
0003	OPTIONAL UPGRADES (if exercised)	1.00	Lump Sum		
	All labor, materials & equipment for all work identified in section 800.1 (a)(i) as the base bid for the optional items.				
	NET AMT				

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
0003AA	Optional Unit Priced Items (if exercised)	810	Square Foot		
	Labor, materials and equipment associated with OH - 2 as defined in Spec Section 03350 and the plans.				
	NET AMT				

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
0003AB	Optional Unit Priced Items (if exercised)	810	Square Foot		
	Labor, materials and equipment associated with OH - 3 as defined in Spec Section 03350 and the plans.				
	NET AMT				

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
0003AC	Optional Unit Priced Items (if exercised)	810	Square Foot		
	Labor, materials and equipment associated with OH - 4 as defined in Spec Section 03350 and the plans.				
	NET AMT				

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
0003AD	Optional Unit Priced Items (if exercised)	525	Square Foot		
Labor, materials and equipment associated with OH - 5 as defined in Spec Section 03350 and the plans.					

NET AMT

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
0003AE	Optional Unit Priced Items (if exercised)	525	Square Foot		
Labor, materials and equipment associated with OH - 6 as defined in Spec Section 03350 and the plans.					

NET AMT

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
0003AF	Optional Unit Priced Items (if exercised)	480	Square Foot		
Labor, materials and equipment associated with TR - 1 as defined in Spec Section 03350 and the plans					

NET AMT

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
0003AG	Optional Unit Priced Items (if exercised)	220	Linear Foot		
Labor, materials and equipment associated with TR - 2 as defined in Spec Section 03350 and the plans.					

NET AMT

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
0003AH	Optional Unit Priced Items (if exercised)	220	Linear Foot		
Labor, materials and equipment associated with TR - 3 as defined in Spec Section 03350 and the plans.					

NET AMT

UNIT PRICE ITEMS TOTAL(SLINS 0003AA-0003AH):

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
0004	OPTIONAL UPGRADES (if exercised)	1.00	Lump Sum		
All labor, materials & equipment for all work identified Bid Option 2 on Sheet A - 1.00 and A - 5.00 thru A - 5.01.					

NET AMT

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
0005	OPTIONAL UPGRADES (if exercised)	1.00	Lump Sum		
All labor, materials & equipment for all work identified as Bid Option 3 on sheet A.-1.00 and A.3.00.					

NET AMT

ALL OPTIONAL ITEMS (CLIN 0003-0005):

PROPOSAL GRAND TOTAL: _____

Changes in Section SF 30

Due to heightened security measures, contractors must allow adequate lead time if bids are hand carried. If bids are hand carried/ drive to the installation, offers must have a valid drivers license, vehicle registration, and vehicle insurance. Offers electing to park their vehicles and walk to building 301 must have a valid I.D. i.e., picture I.D., drivers license or passport as well as a copy of their bid/proposal.

In some instances bid/proposals due dates have already passed. Contractors will be provided instructions, either by telephone or amendment. For offerors that have submitted bids/proposals to 26 Federal Plaza, you must resubmit such bids/proposals.

In the event Fax'd bids/amendments/proposals are authorized, the following number apply:

Fax numbers are: 718-765-7212 or 718-765-7210

Telephone number: 718-765-7071

or

Cell phone number: 917-533-8522

For web questions, please contact Thanh Nguyen Thanh.g.nguyen@usace.army.mil.

For contracting questions, please contact Edward Lew, at e-mail address Edward.T.Lew@usace.army.mil, or at 917-533-8527.

NOTICE TO OFFERERS

of any offerer

To acknowledge receipt

Of this Amendment in

Item 19. Of Standard

Form 1442

May result in REJECTION

Of the offer.

IFB No. DACA51-01-B-0022 Failure

Amend. No. 2

Department of the Army

New York District

Corps Of Engineer

26 Federal Plaza

New York, N.Y. 10278

AMENDMENT NO. 2 FOR MICHIE STADIUM SEISMIC RETROFIT – PHASE II UNITED STATES MILITARY ACADEMY, WEST POINT, NEW YORK.

STANDARD FORM 1442 SHOWS BID OPENING FOR 20 SEPTEMBER 2001 AT 2:00PM. THIS DATE HAS CHANGED TO 25 SEPTEMBER 2001 AT 2:00PM.

The following needs to be incorporated into the amendment:

1. Replace the bid schedule in its entirety with the attached revised bid schedule.
2. Replace 800.1 para (1) (a) (i) "Scope of Work" in its entirety with the attached "Scope of Work."
3. Add "800.44 "Coordination with other Contractors": The Contractor should be prepared to coordinate their activities with the two (2) other Contractors in the immediate area. The installation of ground facilities including an elevator tower and structural steel for a new press box will be on going. In addition, the Phase I contractor may be completing punch list items during this period. Two larger projects are currently on going to the north and south of the stadium. Weekly coordination meetings at an adjacent site are currently conducted due to the activity in this area. A representative must attend these meetings to discuss open issues and any problems with coordination."
4. Add the following section "800.45 **HAZARDOUS MATERIAL IDENTIFICATION & MATERIAL SAFETY DATA (AUG 1987)**

(a) The Contractor agrees to submit a Material Safety Data Sheet (Department of Labor Form OSHA-20), as prescribed in Federal Standard No. 313B, for all hazardous material 5 days before delivery of the material, whether or not listed in Appendix A of the Standard. This obligation applies to all materials delivered under this contract which will involve exposure to hazardous materials or items containing these materials.

(b) "Hazardous material", as used in this clause, is as defined in Federal Standard No. 313B, in effect on the date of this contract.

(c) Neither the requirements of this clause nor any act or failure to act by the Government shall relieve the Contractor of any responsibility or liability for the safety of Government, Contractor, or subcontractor personnel or property.

(d) The Contractor shall comply with applicable Federal, State, and local laws, codes, ordinances, and regulations (including the obtaining of licenses and permits) in connection with hazardous material.

(e) The Government's rights in data furnished under this contract with respect to hazardous material are as follows:

(1) To use, duplicate, and disclose any data to which this clause is applicable. The purposes of this right are to (i) apprise personnel of the hazards to which they may be exposed in using, handling, packaging, transporting, or disposing of hazardous materials; (ii) obtain medical treatment for those affected by the material; and (iii) have others use, duplicate, and disclose the data for the Government for these purposes.

(2) To use, duplicate, and disclose data furnished under this clause, in accordance with subparagraph (e) (1) (i) above, in precedence over any other clause of this contract providing for rights in data.

(3) That the Government is not precluded from using similar or identical data acquired from other sources.

(4) That the data shall not be duplicated, disclosed, or released outside the Government, in whole or in part for any acquisition or manufacturing purpose, if the following legend is marked on each piece of data to which this clause applies : "This is furnished under United States Government Contract No _____ and shall not be used, duplicated or disclosed for any acquisition or manufacturing purpose without the permission of _____. This legend shall be marked on any reproduction of this data." (End of Legend)

(5) That the Contractor shall not place the legend or any other restrictive legend on any data which (i) the Contractor or any subcontractor previously delivered to the Government without limitations or (ii) should be delivered without limitations under the conditions specified in the Federal Acquisition Regulation in the clause at 52.227-14, Rights in Data.

(f) The Contractor shall insert this clause, including this paragraph (f), with appropriate changes in the designation of the parties, in subcontracts at any tier (including purchase designations or purchase orders) under this contract involving hazardous material.

(End of clause) (FAR 52.223-3)

5. Replace section 800.33 in its entirety with “ **SAFETY AND HEALTH REQUIREMENTS MANUAL**: This contract is for construction or dismantling, demolition, or removal of improvements with any Department of Army agency or component. The Contractor shall comply with all the pertinent provision of the latest version of the U.S. Army Corps of Engineers Safety and Health Requirements Manual, EM 385-1-1, in effect the date of the solicitation. EM 385-1-1 and its changes are available at <http://www.hq.usace.army.mil> (at the HQ homepage, select Safety and Occupational Health). The Contractor shall be responsible for complying with the current edition and all changes posted on the web as of the effective date of this solicitation.

a. It is the Contractor's responsibility to ensure that its employees and those of any, or all other subcontractors', do not perform any required work in surroundings, or under conditions which are unsafe, dangerous to the employees' health. All work done on USMA reservation, must be performed in a safe manner, that is in compliance with the Corps of Engineers', Federal, State and local safety laws and regulations.

b. To ensure this is accomplished, prior to commencement of work at any job site, an acceptable accident prevention plan, written by the prime Contractor for the specific work and implementing, in detail, pertinent requirements of EM 385-1-1 and other applicable regulations, will be forwarded to the Contractor Administrator and Post Safety Officer. The Plan shall include, but not limited to, what control measures the Contractor will take to control hazards associated with materials, services, operations and equipment. This plan shall provide for frequent and regularly scheduled safety/health inspections of the work site by contractor management who are knowledgeable of OSHA 1910 (Industrial), OSHA 1926 (Construction) and EM 385 1-1 US Corps of Engineers Safety and Health Requirements Manual. The Safety/Health representative shall correct any unsafe/violated condition immediately.

c. Any job performed in an unsafe or hazardous manner that creates an imminent danger to USMA or Contractor's employees, will be shut down by the Contracting Officer or his designate.

d. The following publications/standards are recommended for Contractor's reference files. This is not intended as an all encompassing list:

OSHA 1926 (Construction)
OSHA 1910 (Industrial)
EM 385 -1-1
ANSI Standards
National Electric Code (NEC)
National Fire Protection Association Codes (NFPA)
New York State: Vehicle and Traffic Law (most recent edition)
Building Construction Code
Industrial Code Rule 23 (Department of Labor)”

6. Add the following section “800.46 **ACCESS ROUTES, CONTRACTOR AREAS, DELIVERY AND VISITOR CONTROL**

a. The Contractor will utilize only entry points as shown on the Site Plan. Contractor's personnel and construction equipment will not be permitted in any place other than what is designated on the Site Plan, unless specifically authorized by the Contracting Officer. The Contractor shall make a request for authorization to use alternate limited access to the Contracting Officer at least seven (7) calendar days in advance.

b. A staging area, with a minimum capacity for one 8 foot by 16 foot trailer, shall be available near each of the building sites. The exact location for staging is attached to section 800 in 8 1/2 x 11 format. A field trailer will be provided for the COE and Contractor coordinated between the Contracting Officer and the Contractor. The Contractor will utilize the areas within his construction limits for his daily staging. The Contractors' staging area shall be surrounded by a 6 ft. high, anchored to ground, chain link fence, with green or black slats for privacy screening so that visibility through the fence is obstructed. Trailers, materials, or equipment shall not be placed or stored outside the fenced area unless such trailers, materials or equipment are assigned a separate and distant storage area by the Contracting Officer away from the vicinity of the staging area but within military boundaries. Trailer, equipment, or materials shall not be open to public view with the exception of those items, which are in support of ongoing work on any given day. Materials shall not be stockpiled outside the fence in preparation for the next day's work. At the end of each work day mobile equipment, such as tractors, wheeled lifting equipment, cranes, backhoes and like equipment, shall be parked within the fenced area. The following shall remain fully accessible: sallyports, hydrants, standpipes and accessways, guest parking, public utility rooms. The Contractor shall be responsible for all temporary connections (power, water telephone, etc.) to the staging area. The Contractor shall maintain the area in a clean and neat condition. Parking for Contractor's employees near the staging area is subject to Contracting Officer approval. Contractor's employees parking will be limited to a remote site. The Contractor shall be responsible for transporting employees to the project site. The Contractor will return all such area to their original condition unless specifically authorized by the Contracting Officer.

c. Additional off-site storage areas, if available, may be provided by the Government upon request from the Contractor at no additional cost. The Contractor must maintain all necessary security of his materials and supplies at this off-site location.

d. The Contractor will be responsible for the control of material deliveries, vendors, suppliers, prospective employees and other authorized personnel entering the project area as relates to this contract. The Contractor will install signs at entrances to the project directing deliveries and visitors to the proper entry points.

e. The Contractor will be permitted to utilize the staging area for material storage and unloading, material hoists, rubbish containers, rubbish chutes (if any), temporary office and personnel dressing facilities, and all other items required for staging.

f. The Contractor shall provide chemical toilets for his personnel in the staging areas, and shall be responsible for cleaning and servicing these toilets in accordance with pertinent health regulations and will assure a frequency of service as required to prevent odors or other

nuisance. Use of toilet facilities by Contractor's employees within the Guest Houses will not be permitted.

g. The Contractor shall provide weather tight and waterproof storage facilities for all materials stored at the site and required to be incorporated into the work.

h. The Contractor shall remove rubbish containers when full or every two weeks which ever comes first.

i. The color of dumpsters, trailers, storage sheds and portable latrines shall be approved by the Contracting Officer.

j. All materials, trailers, and storage sheds in staging and construction areas shall be elevated and stored a minimum of 3 feet from any structure or fixed object. Trailers shall have doors on both ends.

k. Contractor shall limit employees and employee vehicles to his work site."

7. Add the following section "800.47 **EXISTING PARKING**

The Contractor except for those areas identified as "staging areas" shall not use the existing parking for guests and Government employees."

8. Add the following section "800.48 **MAINTENANCE OF ACCESS ROADS**

a. The Contractor will be responsible for the maintenance of access roads (if applicable) between the site staging areas and the construction site. Maintenance of access roads will include snow removal. The Contractor will remove snow piles and rows when they affect safety, hamper emergency and fire vehicles, or block proper drainage.

b. The Contractor will provide and allow full access to the project site to all traffic, except as noted, to other contractors and authorized personnel as designated by the Contracting Officer.

c. The Contractor shall not inflict damage upon land properties, roads outside the authorized construction areas by unwarranted entry upon, driving over curbs, passage through, damage to or disposal of, material on such land or property, or overloading of roads. The Contractor may make a separate agreement with any other party, regarding the use of, or right to, land or facilities outside the contract area,. If such an agreement is made, it shall be in writing and a copy shall be furnished to the Contracting Officer. The Contractor shall hold and save the Government, its officers and agents free from liability of any nature or kind arising from any trespassing or damage occasioned by his operations."

9. Add the following section "800.49 **FIRE PROTECTION**

The Contractor will provide fire protection in accordance with Section 9 of EM 385-1-1, US Army Corps of Engineers Safety and Health Requirements Manual. The Contractor's means of providing such protection will be included in his safety plan as required by the contract. The plan shall include fire exits and access routes during construction and during partial acceptance of the facilities, if any. Although the US Military Academy, West Point Fire department and local departments with whom the US Military Academy has mutual aid agreements will respond to emergencies, the capabilities of these departments will be limited by their available equipment and access to the construction sites.”

10. Add the following section “800.50 **SITE AND BUILDING SECURITY**”

(a) The Contractor will be responsible for the security of the areas within the contract limits. When the Government takes possession of certain areas, the Contractor will be responsible for the areas remaining under his control.

(b) The Contractor will be responsible for furnishing an identification badge to each employee in accordance with the contract clause 00800.24 "IDENTIFICATION OF EMPLOYEES". The Contractor shall provide an updated list of all employees working on the site. This list shall be provided on a monthly basis or when requested by the Contracting Office throughout the duration of this contract.

(c) The Contractor shall submit a written Security Plan for the approval of the Contracting Officer no later than thirty (30) calendar days after receipt of the NTP. The plan will address the requirements stated above, the various contract technical and special requirements and the Installation Security regulations. The Security Plan will set operating procedures and organizational structure including designation of responsible individuals.”

11. Add the following section “800.51 **UTILITY VERIFICATION**”

The contract drawings depict the general layout and elevations of all known utilities. The utility lines are presented for informational purposes only and must be field verified by the Contractor prior to the start of any utility work. The Contractor shall locate and determine elevations of all existing utilities which he will encounter during his work and shall protect all such utilities from any possible damage during the progress of his work. If damage should occur due to the Contractor's operations, repairs shall be made by qualified personnel at the Contractor's expense.”

12. Add the following section “800.52 **ARTIFACTS, PRESERVATION & PROTECTION OF HISTORICAL, ARCHAEOLOGICAL AND CULTURAL RESOURCES**”

Any and all items of prehistoric, historic and military relics or memorabilia, which may be discovered in the course of the construction activities, shall remain the property of the Government. Examples of such items include but are not limited to: printed matter or other papers, buttons, buckles, or fragments of uniforms, buried weapons, bayonets, sabers, cannon balls, ammunition, fragments of structures or foundations, in short any item of historical or archaeological value. Federal legislation provides for the protection, preservation and collection of scientific, prehistorical, historical and archaeological data, including relics and specimens

which might otherwise be lost due to alteration of terrain or building features as a result of any federal construction project. Any person who, without permission, injures, destroys, excavates, appropriates or removes any historical or prehistorical artifact, object of antiquity or archaeological resource from public lands of the United States is subject to arrest and penalty of law.

Cultural resources on Federal property are protected and managed by the Archaeological Resources Protection Act of 1979 and other applicable laws. The Contractor shall exercise care so as not to disturb or damage artifacts or fossils (should any be uncovered) during the excavation operations. Should the Contractor or any parties operating or associated with the performance of this contract discover evidence of possible scientific, prehistoric, historic or archaeological finds within the work limit lines or adjacent to work area shall immediately cease work at that location and notify the Contracting Officer, in accordance with USMA SOP 16-1. The Contractor shall provide the Contracting Officer with all information as to the specific location and nature of the findings. USMA SOP 16.1 will be furnished to the Contractor at the pre-construction meeting. The Contractor shall cooperate fully with the Contracting Officer in implementing the procedures of USMA SOP 16.1, except that all notifications by the Contractor shall be to the Contracting Officer and that all directions to the Contractor will be from the Contracting Officer. Where appropriate by reason of discovery, the contracting officer may order delays in time of performance or changes in the work or both. If such delays or changes are ordered, an equitable adjustment will be made in the contract in accordance with the applicable clauses of the contract.”

13. Add the following section “800.53 **CONNECTION WITH WORK OF OTHER CONTRACTS**”

During the period of this contract, other contracts may be in force for the construction of other features of work on or adjacent to the site of work being accomplished under this contract. The Contractor shall arrange his plant and shall schedule and perform the work as to effectively cooperate with all other contractors and Government agencies. It is the Contractor's responsibility to know the extent of the limits of his contract. No direct or extra compensation will be allowed on account the cooperation required.

(a) At all points of connection with work of other contracts, the Contract shall coordinate, as required, with the adjoining contracting to insure proper and timely connections.

(b) Where the work under this contract is completed before that of the adjoining contractor, the Contractor shall terminate his work in an approved manner ready for future connection by the adjoining contractor. Pipes and conduits shall be closed with suitable caps or plugs that will prevent entry of dirt or debris, but that are readily removable when final connections are made. For underground lines that are back-filled, approved type markers that extend above the ground surface shall be provided to facilitate future location of the lines by the adjoining contract.

(c) Where the work of the adjoining contractor is already in place, the Contractor shall perform all work required to effect the necessary connection, including locations of underground lines, removing of caps, providing necessary adapters or joining pieces, and all related incidental work for necessary for a proper, secure connection.”

14. Add the following section “800.54 **WORKING CONDITIONS, WORKING HOURS AND NON-WORKING DAYS**”

a. Working Hours: Normal working hours shall be Monday - Friday, 0745 to 1630 hours. The Contracting Officer must approve differences to these working hours.

b. Non-Working Days: During the course of this contract the Contractor shall not perform any physical work on the days listed below:

(1) Graduation Week 27 May 2002-01 June 2002

(2) Reception Day 01 July 2002

(3) Football Home Games: Approx. seven (7) home football games per year are scheduled on Saturday's. Exact dates may be furnished to the Contractor on request in the year that they will occur. No work will be performed during these days.

(4) All Government Holidays

(5) The Contractor should anticipate four (4) additional days each calendar year on which no physical work shall be performed. These will be at the Governments discretion. The actual "No Work" days will be confirmed by the Government during the work phase in conjunction with the construction plan approval. The Contractor's schedule must reflect the above anticipated "no work" days.

c. Working Conditions:

(1) Open trenches or road restrictions will not be permitted without the approval of the Contracting Officer.

(2) Parades, reviews or similar ceremonies are routinely conducted up to or four times a week. Hours of such ceremonies are normally 5:00pm on weekdays and 11:30 am on Saturdays, although there are exceptions to these hours. Detailed schedules of ceremonies may be obtained two (2) months in advance on request from the Contracting Officer. In addition the following requirements shall apply to all contractor's activities in connection with these ceremonies:

(a) Right of way shall be given to cadets marching in formation.

(b) During the actual ceremonies, the Contractor's activities that produce noise to an extent which would distract or interfere with the ceremony, such as the operation of extremely loud and noisy machinery, shall be suspended until the ceremony is over.

(3) Accessways shall be fully usable.

(4) All cost for conformance with the above stated requirements shall be included with the lump sum contract amount and no claim for extra cost shall be considered.

15. Add the following section “800.55 **CONSTRUCTION DISPOSAL, HOUSEKEEPING AND CLEAN UP**”

a. All construction debris or other rubbish generated as a result of construction activities shall be disposed of, **OFF** the Military Reservation at the Contractor's expense. Scrap, debris or surplus construction materials are not to be buried or burned on the site or disposed of in the sanitary disposal containers operated by the Government. The Contractor must obtain all necessary permit/applications required for the disposal of debris for off site locations. The Contractor is responsible for obtaining all necessary permits required for the disposal of all construction debris, including proper disposal of Hazardous Materials.

b. **Spillages and Damages:** All spillage and mud from the Contractor's trucks or activities shall be removed promptly. All damages to existing curbing, roads, walks, trees, fencing, walls, floors, landscaping and other Government Property resulting from the Contractor's activity, shall be repaired promptly, as directed by the Contracting Officer, and at the Contractor's expense.

c. The Contractor shall take into full account the special Public, Military and Academic nature of the United States Military Academy and its prominence as a tourist attraction, all of which will be in operation during the course of this construction. Where materials or plants cannot be kept on the designated area in neat, clean and orderly fashion, and thereby cause an unnecessary eyesore, they shall be moved to other locations, on or off Government property, as directed by the Contracting Officer. The Contractor shall, at all times, furnish from his own organization a sufficient force to carry out the housekeeping and cleanup requirements on both exterior and interior areas affected by his contract operations, on a day to day basis throughout the life of the contract.

d. Project Housekeeping shall be done on a continual basis. Areas requiring housekeeping include the Work area, Contractor's area, all staging areas provided to the Contractor and around all trailers. At the end of each day, the Contractor shall leave the housekeeping areas broom clean and free of rubbish, litter, and construction debris generated by that day's work. In addition, Contractor shall have daily inspection to insure that building entrances, public hallways and exits are kept vacuum clean and free of rubbish, litter, and construction debris generated by that day's work. Any dirt or mud which is tracked onto paved or surfaced entrance areas, sidewalks and roadways, shall be cleaned away immediately and in no case shall the Contractor leave the site at the close of work without verifying that all debris, dirt or mud has been removed from any surface within the limits of construction.

e. The Contractor shall provide and maintain a dumpster of sufficient size at each project site. The dumpster shall be replaced at regular intervals to avoid overfilling and spillage and the area around the dumpster shall be kept clean at all times.

f. If, at any time during the progress of the work, the Contracting Officer determines that the Contractor is failing to comply with the requirements of the subparagraph above, he may direct the Contractor to take such measures as he deems necessary to constitute corrective action. Such measures may include the requirement to increase the work force assigned to the housekeeping and cleanup operations or to work during evenings or weekends until proper job conditions have been restored.

g. Dust control shall be performed as the work proceeds and whenever nuisance or hazard occurs. The Contractor shall provide barriers in interior construction areas to keep occupied areas of the building free of dust. No cost thereof shall be considered incidental to and included in the contract prices. The Contractor shall control his operations to prevent any measurable or visible dust from migrating outside of his work area and shall conduct daily cleaning inspections in adjacent spaces. Contractor shall clean any areas he finds dirty and shall also coordinate with Guest House housekeeping staff on cleaning products typically used for finishes. See Dust and Noise Control procedure section.

h. After construction is completed in each room, hallway, and public space, contractor shall insure the following cleaning procedures:

- (1) Carpet finishes shall be vacuum cleaned.
- (2) Wall/floor tile finishes shall be mop/sponge cleaned.
- (3) All other finishes (suspended ceiling tile, gwb, etc...) shall be dust cleaned.

Contractor shall coordinate with Guest House housekeeping staff on cleaning products typically used for finishes. Contractor shall be responsible for having finishes at the condition they were before construction started. When final cleanup is completed, the Contractor shall schedule final inspection with the Contracting Officer. Acceptance of final cleanup completion is subject to approval of the Contracting Officer. The Contractor's Manager shall be present at the final cleaning inspection. If the Contractor's performance is unsatisfactory, the Contracting Officer will either a) determine if re-performance of minor deficiencies can be accomplished during the final inspection or b) prepare and furnish a written site inspection checklist for major deficiencies which indicates those areas that require re-performance (failed inspection) and can not be accomplished during the final inspection. Contractor shall then reschedule another final inspection."

16. Add the following section "800.56 **DISPOSAL AND BURNING**

No open burning of construction material and debris will be permitted on the construction sites during the extent of this contract. Construction debris and other rubbish shall be disposed of, off of the Military Reservation. Burning of rubbish or site removal items will not be permitted. Scrap, debris and surplus construction materials are not to be disposed of in the "Post Sanitary Disposal Containers" (Dumpsters), which are distributed throughout the area, but must

be loaded in the Contractor's dumpsters for disposal at a location other than the United States Military Academy.”

17. Add the following section “800.56A **OPERATION AND MAINTENANCE MANUALS**

(a) The Contractor shall provide six (6) sets of operation and maintenance manuals to be used for training, operation and maintenance of each piece of operating equipment and material finishes. All material shall be clearly identified, including its location on the project. Sheets shall be 8 1/2" x 11", except pull out sheets which may be neatly folded to 8 1/2" x 11". Manuals shall be properly indexed, bound in plastic covered 3 ring, loose leaf binder with the project title lettered on the front cover, and shall contain:

1. Name, address, phone number and trade of all subcontractors.
2. Complete maintenance instruction; name, address and phone number of installing contractor, manufacturer's local representative, for each piece of operating equipment.
3. Narrative consisting of instruction for equipment and systems to include:
 - a. Description of system and intent.
 - b. Start-up Procedures.
 - c. Emergency Procedures.
 - d. Shut-down Procedures.
 - e. Maintenance Instructions.
 - f. Wiring Diagrams and trouble shooting guidelines.
 - g. System Layout Diagrams
4. Catalog data on plumbing fixtures, valves, water heaters, heating and cooling equipment, temperature controls, fans, electrical panels, service entrance equipment, elevators and light fixtures.
5. Instructions for use in training and operation and maintenance of each item of operating equipment.
6. Manufacturer's name, type, color designation for ceramic tile, resilient floors, windows, doors, brick, concrete block, paint, roofing and other materials.

(b) Submit six (6) copies of maintenance manual to the Contracting Officer for the Installation's use prior to request for substantial completion.

(c) Operation and Maintenance Instructions: The Contractor shall provide at his own expense competent manufacturer's representatives to completely check out all mechanical and electrical systems and items covered by the drawings and technical provision of this contract. This requirement shall be scheduled just prior to and during the initial start-up and before requesting the final inspection of a phase. After all systems are functioning properly, the representative shall instruct Installation maintenance personnel in the proper operation and

maintenance of each item. In addition, to the instruction given at the project, Installation personnel shall be given a one day classroom instruction course of the operation and maintenance of the systems. This training shall be video taped and provided to the Government.

(d) Posted Operating Instructions: All major items of mechanical equipment shall have posted in a convenient and appropriate location operating instruction consisting of photo engraved description of system operation, including necessary diagrams keyed to valve and piping identification systems.”

18. Add the following section “800.57 **PREPARATION OF DD FORM 1354 "TRANSFER OF ACCEPTANCE OF MILITARY REAL PROPERTY"**”:

At the conclusion of this contract, the Contractor will compile and furnish to the Contracting Officer all costs and quantity data of materials and systems furnished and installed. A list of items for which the costs and quantity data is required and blank DD1354's will be furnished to the Contractor by the Government. The Contractor shall return this information to the Contracting Officer within ten (10) days from receipt of the list in the form of a DD1354 form.

1. NO Asbestos Statement: Upon completion of the work, the Contractor and all of his subcontractors shall provide a written statement stating that "No Asbestos-Containing" material/products were used in the construction.

2. The Contractor shall submit all project closeout documents not previously provided to the Contracting Officer at the time of the Beneficial Occupancy Inspection.”

19. Add the following section “800.58 **SCAFFOLDING**”

The Contractor shall furnish and securely set and maintain scaffolding required for the work. All scaffolding shall be made of good, sound materials, of adequate strength and dimensions for its intended use and substantially braced and secured to insure safety for those required using it. Scaffolding shall also comply with OSHA and EM 385.1-1. The Contractor shall submit detailed scaffolding drawings to the Contracting Officer for information only.”

20. Add the following section “800.59 **COORDINATION OF TRADES**”

The contract drawings are in part diagrammatic and show the general arrangement of duct, piping and other mechanical and electrical trades. The Contractor must have a competent engineer on the project site to coordinate all field-work and shop drawings of the various trades prior to installation and/or submission of field or shop drawings for approval. The Contractor shall allot spaces to the various trades prior to installation of the work. In spaces where all the various installations cannot be accommodated, the Contractor shall notify the Contracting Officer and shall submit alternate solutions as to its solution at no cost to the Government. The decision of the Contracting Officer shall be final.

The Contractor shall be responsible for the coordinated drawings of the various trades showing locations and sizes of all sleeves, electric outlets, inserts, piping, shafts, hangers, lights, ducts,

catwalks, pads, chases, sprinklers, smoke detectors, soffits, fascias, steel trusses, etc. Composite signed-off coordinated shop drawings shall be developed at 3/8" equals 1'-0 scale showing all mechanical-electrical work in hung ceilings and chases."

21. Add the following section "800.60 **PROGRESS PHOTOGRAPHS**

The Contractor, as directed by the Contracting Officer's representative, shall submit monthly, a minimum of twelve (12) 8" X 10" color photographs showing construction progress."

22. Add the following section "800.59 **MATERIAL HOISTS**

The Contractor shall furnish, maintain and operate all materials hoists as required to complete this contract. Hoists shall be complete with all equipment necessary for operation, and shall meet any and all applicable laws and regulations. Material hoists shall be located on the existing site as directed by the Contracting Officer. Hoists shall be enclosed by a temporary 8'-0" high chain link fence."

23. Add the following section "800.60 **PARTNERING**

In order to most effectively and efficiently accomplish the work provided for in this contract, the Government is encouraging the formation of a cohesive, mutually beneficial partnership with the Contractor and its subcontractors. This partnership would strive to draw on the strengths, skills and knowledge of each organization to achieve a quality product done right the first time, within budget, safely and on schedule. The focus of partnering is to build cooperative relationships, avoid or minimize disputes and actively pursue the attainment of common goals by the Contracting parties. Success will be dependent upon teamwork characterized by open and effective communications while always adhering to the highest professional standards.

The partnership would be bilateral in makeup and participation. Any costs associated with the effectuation of this partnership would be shared with no change in the contract price."

24. Add the following section "800.61 **DIG SAFE PERMIT**

The contractor shall be responsible for obtaining a dig safe permit prior to commencing any excavation. The digging permit is referred to as the "Dig-Safe Permit" and the procedure for obtaining this permit is as follows:

a. The contractor shall notify the Contracting Officer in writing 20 working days prior to commencing any excavation. Notification letter must include areas to be excavated, reason for excavation, depth of excavation, and any supporting information such as drawings to allow the processing of permit. A copy of the Dig Safe Permit Request and permit will be provided to the contractor at the pre-construction conference. The top portion of the request must be filled out by contractor and submitted to the Contracting Officer. The contractor shall not be compensated for any delay caused by failure to notify government on timely basis to obtain the digging permit.

b. Government personnel will mark the APPROXIMATE location of utilities in the area of the proposed work at least 5 workdays prior to the planned excavation date. In the event these markings are damaged or washed-off, the contractor must contact the Contracting Officer. Since markings are approximate, excavation must be performed with due care. When excavating in areas adjacent to marked utilities, only hand excavation will be acceptable.

c. Once the permit is approved and signed by the Chief of the Utilities Division a Dig-Safe Permit will be issued to the contractor. From the issuance of the Dig-Safe permit, the contractor has two weeks to commence excavation, after that the permit will no longer be valid and will have to be re-submitted.

d. In the event that any utility line is damaged during excavation, all excavation will stop, and the Contracting Officer shall be contacted immediately. The contractor shall take immediate action to repair the damaged utility at no additional cost to the Government. If utility lines are uncovered which were not identified in the Dig-Safe Permit, the Contracting Officer or Contracting Officer Representative will be contacted, a determination will be made as to which utility is involved and whether the lines are active or abandoned. When an unknown line is uncovered, it will be treated as "live" until determined otherwise."

25. Add the following section "800.62 **PEST CONTROL**

(a) The Contractor shall deposit all food refuse in sealed trash containers to restrict food source for rodents.

(b) The Contractor shall replace construction dumpsters at least every two weeks to prevent rodent harborage.

(c) All materials, trailers, and storage sheds in staging and construction areas shall be elevated and stored a minimum of 3 feet from any structure or fixed object.

(d) The Contractor shall provide access to the construction area to the West Point pest control personnel and contractor. The West Point pest control contractor will conduct two site visits daily, one at the end of the construction day to set traps for rodents and one at the start of the construction day to remove traps.

(e) The Contractor shall cap all pipes at the end of each day to prevent pest infiltration."

26. Add the following section "800.63 **COORDINATION MEETINGS**

Weekly coordination meetings shall be conducted by the Contracting Officer representative with the Contractor and West Point personnel to review and coordinate the construction schedule. The Contractor shall provide typed minutes of each meeting within three (3) days of meeting.

The Contractor shall submit at each meeting, for approval by the Contracting Officer a "two (2) week construction look ahead" construction plan indicating the type and extent of construction to be performed. The plan shall be submitted 14 calendar days prior to actual construction."

27. Add the following section "800.64 **CONTRACTOR'S KEY MANAGEMENT PERSONNEL**

The following are the minimum requirements for the contractor's key management personnel. In case of differences between the requirements of this section and any other part of the contract the most stringent will apply."

(A) CONTRACTOR PROJECT MANAGER (Overall Manager of the Project)

- a. The Contractor's Project Manager shall have the following minimum qualifications:
 1. Ten (10) years experience as a Project Manager with a minimum of five years in the "field", on projects of comparable complexity, scope of work and cost.
 2. Demonstrate knowledge of proper construction practices, procedures and management.
 3. Demonstrate proficiency in reading and interpreting contract documents.
 4. Demonstrate that he is capable, efficient, knowledgeable of contract requirements, cooperative, fair, reasonable, negotiated fairly in good faith, committed to customer satisfaction and to producing a quality product in conformance with the terms of the contract.
- b. Position Requirements Shall Include:
 1. Perform all Project Management duties required of the Contractor.
 2. Serve as the Governments' sole point of contact in all matters relating to the work including, but not limited to, contract compliance; progress of work; scheduling; financial matters and "change orders".
 3. Attend all job meetings.
- c. The Contractor shall submit qualifications of proposed Project Manager for approval by the Contracting Officer. Resume shall include minimum of three (3) clients with points of contact and telephone numbers who can be contacted regarding the individuals performance.
- d. If the Contracting Officer determines that the Project Manager is not fulfilling the requirements of his position, the Contracting Officer may require that the Contractor replace the Project Manager.

(B) CONTRACTOR SUPERINTENDENT (Overall Field Manager Responsible for Construction)

- a. The Contractor's Superintendent shall have the following minimum qualifications:

1. Five (5) years experience as a superintendent, in the “field”, on projects of comparable complexity, scope of work and cost.
2. Demonstrate knowledge of proper construction practices.
3. Demonstrate proficiency in reading and interpreting construction plans and specifications.
4. Demonstrate that he is capable, efficient, knowledgeable of contract requirements, cooperative, fair, reasonable, committed to customer satisfaction and to producing a quality product in conformance with the terms of the contract.

b. Position Requirements Shall Include:

1. Perform all superintendent duties required of the Contractor, except any duties required under “Superintendence of Subcontractors” contract clause.
 2. Serve as the Governments’ sole “Field” point of contact in all matters relating to the work including, but not limited to, scheduling of work, utility interruptions and testing.
 3. Attend all job meetings.
 4. Be on site at all times during construction.
- c. The Contractor shall submit qualifications of proposed superintendent for approval by the Contracting Officer. Resume shall include minimum of three (3) clients with points of contact and telephone numbers who can be contacted regarding the individuals performance.
- d. If the Contracting Officer determines that the Superintendent is not fulfilling the requirements of his position, the Contracting Officer may require that the Contractor replace the Superintendent.

(C) CONTRACTOR QUALITY CONTROL MANAGER (Manager & Field Quality Control Personnel)

- a. The Contractor’s Quality Control Manager shall have the following minimum qualifications:
 1. Five (5) years of construction quality control related experience of which two (2) years experience as a Quality Control Manager in the “field”, on projects of comparable

complexity, scope of work and cost. He shall be a graduate of a recognized construction management course.

2. Demonstrate knowledge of proper Quality Control practices, procedures and management.
3. Demonstrate proficiency in reading and interpreting contract plans and specs.
- e. Demonstrate that he is capable, efficient, knowledgeable of contract requirements, cooperative, fair, reasonable, committed to customer satisfaction and to producing a quality product in conformance with the terms of the contract.

b. Position Requirements Shall Include:

1. Perform all Quality Control Management duties required of the Contractor.
 2. Serve as the Governments' sole point of contact in all matters relating to the quality of the work including, but not limited to, contract compliance & testing procedures .
 3. Have no other duties except Quality Control.
 4. Attend all job meetings.
 5. On-site at all times during construction.
- c. The Contractor shall submit qualifications of proposed Quality Control manager for approval by the Contracting Officer. Resume shall include minimum of three (3) clients with points of contact and telephone numbers who can be contacted regarding the individuals performance.
- d. If the Contracting Officer determines that the Quality Control Manager is not fulfilling the requirements of his position, the Contracting Officer may require that the Contractor replace the Quality Control Manager.

(D) SAFETY MANAGER (Principal in Charge of Enforcing Safety Codes)

a. The Contractor's Safety Manager shall have the following minimum qualifications:

1. Five years experience as Safety Manager, with a minimum of three of those years in the "field", on projects of comparable scope, hazardous materials/wastes and construction hazards and proximity of general public.
2. Demonstrate a sound working knowledge of Federal and State occupational and construction health and safety regulations.

3. Have current certification in First Aid and CPR from a recognized approved organization such as the American Red Cross.
4. Have specialized training in personal and respiratory protective equipment and proper use of air monitoring instruments and air sampling methods and procedures. Have completed a 40-hour OSHA compliance based construction safety training course.
5. Demonstrate that is capable, efficient, cooperative, reasonable, knowledgeable of Safety requirements and committed to customer satisfaction and producing a safe project in conformance with the terms of the contract.

b. Position requirements shall include:

1. Perform all Safety Management duties required of the Contractor.
2. Serve as the Government's sole point of contact, for all matters relating to the safety of the work.
3. Continually enforce and implement the Safety requirements of the Contract, including the Accident Prevention Plan.
4. Have the responsibility and authority to stop work at any time unsafe work practices, conditions or hazards to building occupants or other persons are present.
5. Be on site at all times during building demolition activities. During all other activities, the Site Safety Officer, as required by the Safety and Health requirements manual EM385-1-1, may fulfill the position requirements of the Safety Manager.

c. The Contractor shall submit qualifications of proposed Safety Manager for approval by the Contracting Officer. Resume shall include minimum of three (3) clients with points of contact and telephone numbers who can be contacted regarding the individuals performance.

d. If the Contracting Officer determines that the Safety Manager is not fulfilling the requirements of his position, the Contracting Officer may require that the Contractor replace the Safety Manager.

(E) CONTRACTOR ASSISTANT SUPERINTENDENT/SUBCONTRACT MANAGER

a. The Contractor's Assistant Superintendent shall have the following minimum qualifications:

1. Four (4) years experience as a superintendent, in the "field", on projects of comparable complexity, scope of work and cost.
2. Demonstrate knowledge of proper construction practices.

3. Demonstrate proficiency in reading and interpreting construction plans and specifications.

4. Demonstrate that he is capable, efficient, cooperative, fair, reasonable, committed to customer satisfaction and to producing a quality product in conformance with the terms of the contract.

b. Position Requirements shall include:

1. Perform all Assistant Superintendent duties required of the Contractor, and any duties required under "Superintendence of Subcontractors" contract clause.

2. Serve as the Governments' sole "Field" point of contact in all matters relating to the subcontracted work including, but not limited to, scheduling of work, utility interruptions and testing.

3. Attend all job meetings.

4. Serves as the alternate in the event that the Superintendent is absent.

5. Be on site at all times during construction of subcontracted work.

c. The Contractor shall submit qualifications of proposed Assistant Superintendent for approval by the Contracting Officer. Resume shall include minimum of three (3) clients with points of contact and telephone numbers who can be contacted regarding the individuals performance.

d. If the Contracting Officer determines that the Assistant Superintendent is not fulfilling the requirements of his position, the Contracting Officer may require that the Contractor replace the Assistant Superintendent.

e. Note that the "Superintendence of Subcontractors " clause requires an additional superintendent if the subcontracted work exceeds 70% of the value of the work. This additional superintendent will have all of the above qualifications and position requirements.

28. Add the following section "800.65 **CONTINUITY OF QUALITY PERFORMANCE**

The contractor agrees that, in the event of any staffing or corporate changes, or substitution of subcontractors and/or consultants, during the performance of this contract, including its option periods, the employees, subcontractors, or consultants engaged in the performance of the contract will continue to have the qualifications, professional background, education, and experience equal to that proposed by the contractor and accepted by the Government for contract award."

29. Add the following section “800.66 **GOVERNMENT RESIDENT MANAGEMENT SYSTEM** : The Government will utilize an in-house NAS/Contract Administration program entitled "Resident Management System" (RMS). The Contractor shall utilize Government furnished CQC Report Forms. These forms may be in addition to other forms generated by the contractor's NAS system; however, the Government furnished forms is required to be submitted and kept current. The Contractor shall submit completed forms at the same time and in addition to the schedules required by the clauses of the contract entitled “Schedules for Construction Contracts”. RMS forms shall be updated and resubmitted as the work progresses and in accordance with the requirements specified herein. RMS includes, but is not necessarily limited to CQC, QC planning, pay activities, features of work, subcontractors, contractor staff, QC requirements, submittal.”

30. Add the following section “800.67 **DISPENSARY AND HOSPITAL FACILITIES**

The facilities of the United States Military Academy Post Hospital are available to use by the Contractor only for the emergency treatment of his personnel injured at the job site. Charges to the Contractor for the use of said facilities will be at prevailing rates for the services provided and billing and payment will be made by separate transaction between the USMA Hospital and the Contractor.”

31. Add the following section “800.68 **CONTRACTOR WARRANTY MANAGEMENT**

1. References:

- a. Clause “Warranty of Construction”, (FAR 52.246-0021)
- b. Clause “Inspection of Construction” (FAR 52.246-12)
- c. Special Requirement paragraph entitled ”Record Drawings”
- d. Specification Section entitled “Contractor Quality Control”

2. General: In order to insure that the Government systematically receives all warranties of construction, equipment and systems to which it is entitled, the contractor shall execute all actions as required by above references and as contained herein.

3. Post-Completion Inspections: For purposes of management of construction warranties, the Government conducts four and nine month warranty inspections with using agencies. The Contractor is encouraged to attend these inspections in order to better manage any warranty items for which it may be responsible.

4. Tagging of Extended Warranty Items: The Contractor shall install tags to identify items protected by extended warranty, i.e. longer than the one year general warranty of construction. The tags shall be minimum 3 inches by 5 inches in size, machine-printed in minimum 14-point type, and shall be weatherproof. Tags shall be attached to equipment if accessible or to accessible control panel, etc. As a minimum, tags shall indicate the following information:

“Extended Warranty Item:”

Name of Item

Name of System with which associated, number designation within system, or other identifier

Model Number

Serial Number

Start and end Dates of Warranty

Contract number

Contract Name

Contractor Name

Point of Contact name, organization and telephone number.

5. Posting of Instructions: In addition to any posting of operating procedures as may be required elsewhere in this contract, any equipment or system for which proper operation or maintenance is critical in order to preserve warranties, prevent damage, or for reasons of safety shall have proper operating procedures posted near the equipment or near the operating point. Instructions shall be protected by 1/16 inch thick plastic sheet. As a minimum such equipment or system shall include:

Electrical Substations

Transformers

Electrical Generators

Major HVAC System components including chillers, air-handlers, fans, etc.

HVAC Control Panel

Boilers

Air Compressors

6. Warranty Meeting. At least 14 days prior to the 80% completion point of this contract (or deliverable phase thereof), the contractor will notify the Government representative for the purpose of scheduling a meeting to clarify understandings of responsibilities with respect to warranties to which the Government is entitled. The Government and contractor shall attend the warranty meeting, as well as any subcontractors, or suppliers involved in the warranty process. The Warranty Plan (below) shall have already been submitted and approved by the Government before the warranty meeting can take place, and shall be the basis of the meeting's agenda.

7. Warranty Plan. At least 30 days before the planned warranty meeting, the contractor shall submit a warranty plan for Government approval per section "Submittals". The Warranty Plan shall include all required actions and documents to assure that the Government receives all warranties to which it is entitled. The plan shall be in narrative form and contain sufficient detail to render it suitable for use by future maintenance and repair personnel, whether tradesmen, or of engineering background, not necessarily familiar with this contract. The term "status" as indicated below shall include due date and whether item has been submitted or was accomplished. As a minimum the plan shall indicate:

a. Roles and responsibilities of all personnel associated with the warranty process, including points of contact and telephone numbers within the organizations of the contractor's, subcontractors or suppliers involved.

b. Listing and status of O&M manuals and As-built drawings, and expected delivery dates.

c. Listing and status of all training to be provided to Government personnel, whether specified by contract or required by manufacturers.

d. Listing and status of delivery of all Certificates of Warranty for extended warranty items, to include roofs, HVAC balancing, pumps, motors, transformers, and for all commissioned systems such as fire protection and alarm systems, sprinkler systems, lightning protection systems, etc.

e. A list for each warranted equipment, item, feature of construction or system indicating:

Name of item

Model and serial numbers.

Location where installed

Names of manufacturers or, suppliers and phone numbers.

Names addresses and telephone numbers of sources of spare parts

Warranties and terms of warranty. This shall include one-year overall warranty of construction as required by ref. 1.a. Clearly indicate which items have extended warranties.

Cross-reference to warranty certificates as applicable

Starting point and duration of warranty period.

Summary of maintenance procedures required to continue the warranty in force.

Cross-reference to specific pertinent Operation and Maintenance manuals

Organization, names and phone numbers of persons to call for warranty service

Typical response time and repair time expected for various warranted equipment

f. The contractor's plans for attendance at the Four and Nine month post- construction warranty inspections conducted by the Government.

g. Procedure and status of tagging of all equipment covered by extended warranties.

h. Copies of instructions to be posted near selected pieces of equipment where operation is critical for warranty and/or safety reasons."

32. Replace section 1451 in its entirety with the attached.

33. Replace section 1330 in its entirety with the attached.

34. Replace section 1420 in its entirety with the attached.

35. Revised Wage rates are attached.

36. The following revision to the structural drawings:

S01:

Correct typo note H, add note N1 to clarify any disturbed concrete is to be patched, Clarify typo product of precast bearing blocks is in the FYFE scope.

S02:

Revise CMU walls, show same as background (screened) to make dwg easier to read, Clarify linework at B1, B2, and B3 to make dwg easier to read.

S03:

Revise CMU walls to show same as background (screened) to make dwg easier to read.

S04:

Correct note at precast seat to plate girder connections, correct self reference to sheet at section cuts (x/S4-Sxx, S4 was not indicated correctly).

S38 and S39:

Revise linework per ACOE comments to make drawing easier to read.

S40:

Revise leader note on detail 1, and revise leader note detail 2.

S41:

Revise linework per ACOE comments to make drawing easier to read.

S42:

Linework revised to make drawing easier to read. Clarified (E) concrete versus (N) non-shrink grout versus (N) patched concrete.

S43:

Revised linework to improve clarity of drawing at detail 2 and 2A, clarified welding versus potential to utilize (E) bolts at detail 4, Clarified welding requirement at detail 3.

S44:

Revised stirrup size from #5 to #4 to increase tolerance available in fitup (smaller bars with tighter bend radius), corrected graphic of stirrups on beam B1, B2, B3 elevations to agree with indicated spacing, added additional stirrup graphic to clarify that center region(s) of B1, B2, B3 are to be provided with one stirrup rather than pairs of nested stirrups as occur at the ends. Clarified dimensions of B1, B2, B3 shown in sections.

37. The Architectural drawings have been revised. The drawings included in this amendment replace the original drawings.

END OF AMENDMENT

Changes in Section 00700

The following clauses which are incorporated by reference have been added or modified:

52.214-31 Facsimile Bids

DEC 1989

[HOME]	[SEARCH]	[PREV]	[CURR_LIST]	[NEXT]	[FIRST]	[PREV]
[CURR]	[NEXT]	[LAST]	[BOTTOM]	[HELP]		

General Decision Number NY010007

General Decision Number **NY010007**

Superseded General Decision No. NY000007

State: New York

Construction Type:

BUILDING

HEAVY

HIGHWAY

County(ies):

DUTCHESS SULLIVAN

ORANGE ULSTER

BUILDING CONSTRUCTION PROJECTS (does not include single family homes and apartment up to and including 4 stories), HEAVY AND HIGHWAY CONSTRUCTION PROJECTS

Modification Number	Publication Date
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0	03/02/2001
1	03/09/2001
2	04/06/2001
3	05/04/2001
4	06/01/2001
5	07/06/2001
6	09/14/2001

COUNTY(ies):

DUTCHESS SULLIVAN

ORANGE ULSTER

ASBE0040M 05/01/1997

Rates

Fringes

SULLIVAN AND ULSTER COUNTIES

INSULATOR/ASBESTOS WORKERS

(includes application of all insulating materials, protective coverings, coatings and finishes to all types of mechanical systems

19.680

10.18

HAZARDOUS WASTE HANDLERS

Duties limited to preparation wetting; stripping; removal; scrapping; vacuuming; bagging; and disposing of all insulation materials whether they contain asbestos or not from mechanical systems

16.07

4.70

ASBE0091M 07/01/1999

	Rates	Fringes
DUTCHESS AND ORANGE COUNTIES INSULATOR/ASBESTOS WORKER (Includes application of all insulating materials, protective coverings, coatings, and finishes to all types of mechanical systems)	27.87	16.52
HAZARDOUS MATERIAL HANDLER Duties limited to preparation, wetting, stripping, removal scrapping, vacuuming, bagging and disposing of all insulation materials; whether they contain asbestos or not from mechanical systems	20.85	4.75

BOIL0005A 09/01/2000

	Rates	Fringes
BOILERMAKER	\$34.92	20.73+a

FOOTNOTE:

a. PAID HOLIDAYS: New Years Day, Thanksgiving Day, Memorial Day, Independence Day, Labor Day and Good Friday, Friday after Thanksgiving, Christmas Eve Day and New Years Eve

BRNY0029C 06/01/1999

	Rates	Fringes
DUTCHESS, ORANGE (Excluding the town of Tuxedo), SULLIVAN, AND ULSTER COUNTIES BUILDING CONSTRUCTION Bricklayers, Cement Masons, Plasterers, Stone Masons	21.46	11.20
HIGHWAY CONSTRUCTION Bricklayers, Cement Masons, Plasterers, Stone Masons	21.96	11.20

ORANGE COUNTY (Including the town
of Tuxedo)

BUILDING CONSTRUCTION

Bricklayers, Cement Masons,
Plasterers, Stone Masons

25.38	12.80
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HEAVY & HIGHWAY CONSTRUCTION

Bricklayers, Cement Masons,
Plasterers, Stone Masons

25.88	12.80
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* CARP0019A 06/01/2001

	Rates	Fringes
BUILDING CONSTRUCTION Carpenters, Millwrights,		

Pile Drivers	24.80	11.335
HEAVY & HIGHWAY CONSTRUCTION		
Carpenters, Millwrights,		
Pile Drivers	24.80	11.335

CARP1456E 07/01/2000

	Rates	Fringes
DOCKBUILDERS	33.39	22.81

ELEC0363A 04/01/2001

	Rates	Fringes
ORANGE COUNTY (HARRIMAN, WOODBURY, MONROE, TUXEDO, CHESTER, WAR-		
WICK, WAWAYHANDA, GOSHEN, WALLKILL AND MIDDLETON TOWNSHIPS)		
ELECTRICIAN	32.00	14.42
DUTCHESS, SULLIVAN, ULSTER AND THE REMAINDER OF ORANGE COUNTY		
ELECTRICIAN	28.00	14.18

ELEC1249B 05/06/2001

	Rates	Fringes
LINE CONSTRUCTION (LINEMAN)		
LIGHTING AND TRAFFIC SIGNAL		
INCLUDING ANY AND ALL FIBER		
OPTIC CABLE NECESSARY FOR THE		
TRAFFIC SIGNAL SYSTEMS, AND		
TRAFFIC MONITORING SYSTEMS, ROAD		
WEATHER INFORMATION SYSTEMS		
Lineman and Technician	27.13	7.50+6.5%+a
Groundman Digging Machine Operator	24.42	7.50+6.5%+a
Mechanic	21.70	7.50+6.5%+a
Groundman Truck Driver (Tractor		
Trailer Unit)	23.06	7.50+6.5%+a
Groundman Truck Driver	21.70	7.50+6.5%+a
Flagman	16.28	7.50+6.5%+a

PAID HOLIDAYS:

a. Memorial Day, New Year's Day, President's Day, Good Friday, Decoration Day, Independence Day, Labor Day, Thanksgiving Day, Christmas Day, and Election Day for the President of the United States and Election Day for the Governor of New York State, provided the employee works two days before or two days after the holiday.

ELEC1249D 05/06/2001

	Rates	Fringes
LINE CONSTRUCTION:		
Substation:		
Lineman & Technician	28.75	7.50+7%+a
Cable Splicer	31.63	7.50+7%+a
Groundman digging machine Operator	25.68	7.50+7%+a
Mechanic	23.00	7.50+7%+a
Groundman truck driver		

(tractor trailer unit)	24.44	7.50+7%+a
Ground man truck driver	23.00	7.50+7%+a
Flagman	17.25	7.50+7%+a
Switching structures; railroad catenary installation and maintenance, third rail type underground fluid or gas filled transmission conduit and cable installations (including any and all fiber optic ground product by any other name manufactured for the dual purpose of ground fault protection and fiber optic capabilities), pipetype cable installation and maintenance jobs or projects, and maintenance bonding of rails; Pipetype cable installation		
Lineman & Technician	30.04	7.50+7%+a
Cable Splicer	33.04	7.50+7%+a
Groundman Digging Machine Operator	27.04	7.50+7%+a
Mechanic	24.03	7.50+7%+a
Groundman Truck Driver (Tractor-trailer unit)	25.53	7.50+7%+a
Groundman Truck Driver	24.03	7.50+7%+a
Flagman	18.02	7.50+7%+a
Overhead and underground distribution and maintenance work and all overhead and underground transmission line work including any and all fiber optic ground wire, fiber optic shield wire or any other like product by any other name manufactured for the dual purpose of ground fault protection and fiber optic capabilities (where no other trades are or have been involved):		
Lineman and Technician	28.75	7.50+7%+a
Cable Splicer	28.75	7.50+7%+a
Groundman digging machine operator	25.88	7.50+7%+a
Mechanic	23.00	7.50+7%+a
Groundman truck driver (tractor trailer unit)	24.44	7.50+7%+a
Groundman Truck driver	23.00	7.50+7%+a
Flagman	17.25	7.50+7%+a
Overhead transmission line work (where other trades are or have been involved):		
Lineman and Technician	31.25	7.50+7%+a
Cable Splicer	31.25	7.50+7%+a

Groundman digging machine operator	28.13	7.50+7%+a
Mechanic	25.00	7.50+7%+a
Groundman truck driver (tractor trialer unit)	26.56	7.50+7%+a
Groundman truck driver	25.00	7.50+7%+a
Flagman	18.75	7.50+7%+a
TELEPHONE, CATV FIBEROPTICS CABLE AND EQUIPMENT		
Cable splicer/Central Office Person	19.61	2.80+3%
Installer Repairman-Teledata Lineman/Tecnician-Equipment Operator	18.63	2.80+3%
Groundman	10.84	2.80+3%
TREE TRIMMER	15.89	3.80+3%+b

FOOTNOTE:

a. PAID HOLIDAYS: New Year's Day, Presidents' Day, Memorial Day, Good Friday, Independence Day, Labor Day, Thanksgiving Day, Christmas Day, and election Day for the President of the United States and Election Day for the Governor of New York State, provided the employee works two days before or two days after the holiday.

b. New Years Day, Washington's Birthday, Good Friday, Decoration Day, Independence Day, Labor Day, Veteran's Thanksgiving Day, Day after Thanksgiving Day and Christmas Day

ELEC1249I 05/06/2001

	Rates	Fringes
SULLIVAN COUNTY		
LINE CONSTRUCTION		
LIGHTING AND TRAFFIC SIGNAL		
LINEMAN INCLUDING ANY AND ALL		
FIBER OPTIC CABLE NECESSARY FOR		
THE TRAFFIC SIGNAL SYSTEM, TRAFFIC		
MONITORING SYSTEMS AND ROAD WEATHER		
INFORMATION SYSTEMS..		
Lineman & Technician	25.86	7.50+6.5%+a
Groundman Digging Machine Operator	23.27	7.50+6.5%+a
Mechanic	20.69	7.50+6.5%+a
Groundman Truck Driver (tractor trailer unit)	21.98	7.50+6.5%+a
Groundman Truck Driver	20.69	7.50+6.5%+a
Flagman	15.52	7.50+6.5%+a

FOOTNOTE:

a. New Years Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, Christmas Day, plus President's Day, Good Friday, Decoration Day, Election Day, for the President of the United States and Election Day for the Governor of the State of New York, provided the employee works the day before or the day

after the holiday.

ELEV0138A 05/01/2001

	Rates	Fringes
ELEVATOR CONSTRUCTOR		
MECHANIC	35.055	9.99+a+b

FOOTNOTE:

a. PAID HOLIDAYS: New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, Friday after Thanksgiving, and Christmas Day.

b. PAID VACATION: Employer contributes 8% of regular basic hourly rate as vacation pay for employees with more than 5 years of service, and 6% for employees with less than 5 years of service.

ENGI0106D 07/01/2001

	Rates	Fringes
NORTHERN PART OF DUTCHESS (To The Northern Boundary line of the City of Poughkeepsie)		
POWER EQUIPMENT OPERATORS HEAVY AND HIGHWAY		
GROUP 1	26.36	12.80+a
GROUP 2	25.93	12.80+a
GROUP 3	25.02	12.80+a
GROUP 4	22.45	12.80+a
GROUP 5	27.54	12.80+a
GROUP 6	26.86	12.80+a
GROUP 7	27.36	12.80+a

POWER EQUIPMENT OPERATORS HEAVY & HIGHWAY CLASSIFICATIONS

GROUP 1:- Boom Truck (over 5 tons), Crane, Cherry Picker (over 5 ton capacity), Derricks (steel erection), Dragline, Overhead Crane (Gantry or Straddle type) Pile Driver, Truck Crane

GROUP 2:- Automated Concrete Spreader (CMI Type), Automated Fine Grader, Backhoe (Except Tractor Mounted, Rubber Tired), Backhoe Excavator Full Swing (CAT 212 or similar type), Belt Placer (CMI Type), Blacktop Plant (Automated), Boom truck (5 tons and under), Cableway, Caisson Auger, Central Mix Concrete Plant (Automated), Concrete Curb Machine, Self-Propelled, Slipform, Concrete Pump (8" or over), Dredge, Dual Drum Paver, Excavator (All Purpose-Hydraulically Operated) (Gradall or similar), Front End Loader (4 cu. yd. and over), Head Tower (Sauerman or Equal), Hoist (Two or Three drum), Holland Loader, Mine Hoist, Mucking Machine or Mole, Pavement Breaker (SP) Wertgen; PB-4 and similar type, Power Grader, Profiler (over 105 H.P.), Quad 9, Quarry Master (or equivalent), Scraper, Shovel, Side Boom, Slip Form Paver, Tractor Drawn Belt-type loader, Truck or Trailer Mounted Log Chipper (Self feeder), Tug Operator (Manned Rented Equipment excluded), Tunnel Shovel

GROUP 3 - Asphalt Paver, Backhoe (Tractor Mounted, Rubber Tired), Bituminous Spreader and Mixer, Blacktop Plant (Non-Automated), Blast or Rotary Drill (Truck or Tractor Mounted), Boring Machine,

Cage-Hoist, Central Mix Plant (Non-Automated) and All Concrete Batching Plants, Cherry Picker (5 Tons Capacity and Under), Compressors (4 or less) Exceeding 2000 C.F.M. Combined Capacity, Concrete Paver (over 16S), Concrete Pump (Under 8"), Crusher, Diesel Power Unit, Drill Rigs (Tractor Mounted), Front End Loader (under 4 c.y.), Hi-Pressure - Boiler (15 lbs. and over), Hoist (One Drum) Kolman Plant Loader and Similar Type Loaders, L.C.M. Work Boat Operator, Locomotive, Maintenance Engineer/Greaseman/Welder, Mixer (For Stabilized Base Self-Propelled), Monorail Machine, Plant Engineer, Pug Mill, Pump Crete, Ready Mix Concrete Plant, Refrigeration Equipment (For Soil Stabilization), Road Widener, Roller (All Above Subgrade), Sea Mule, Self-contained Ride-on-Rock Drill, excluding Air Track Type Drill, Skidder, Tractor With Dozer and/or Pusher, Trencher, Tugger-Hoist, Vermeer saw (ride on, any size or type), Winch, Winch Cat.

GROUP 4 - A-Frame Winch Hoist on Truck, Ballast Regulator (Ride-On), Compressors (4 not to exceed 2000 C.F.M. Combined Capacity; or 3 or less with more than 1200 C.F.M. but not to exceed 2000 C.F.M.), Dust Collectors, Generators, Pumps, Welding Machines, Light Plants (4 of Any Type Of Combination), Concrete Pavement Spreaders and Finishers, Conveyor, Directional Drill Machine Locator, Drill Core, Electric Pump Used In Conjunction with Well Point System, Farm Tractor with Accessories, Fine Grade Machine, Fork Lift (under 15 ft.), Grout Pump Guniting Machine, Hammers (Hydraulic-Self-Propelled), Hydra-Spiker (Ride-On), Hydro-Blaster Water, Post Hole Digger and Post Driver, Power Sweeper, Roller (Grade and Fill), Scarifier (Ride-On Spansaw (Ride-On), Skid Steer loader (Bobcat or similar), Submersible Electric Pump (When Used In Lieu Of Well Point System), Tamper (Ride-On), Tie Extractor (Ride-On), Tie Handler, Tie Insertter (Ride-On), Tie Spacer (Ride-On), Tire Repair, Track Liner, Tractor With Towed Accessories, Vibratory Compactor, Vibro Tamp, Well Point, Aggregate Plant, Boiler (Used In Conjunction With Production), Cement and Bin Operator, Compressors (3 or less not to Exceed 1200 C.F.M. Combined Capacity), Dust Collectors, Generators, Pumps, Welding Machines, Light Plants (3 or less of Any Type or Combination), Concrete Paver or Mixer (16S and under), Concrete Saw (Self-Propelled), Fireman, Form Tamper, Hydraulic Pump (Jacking System), Light Plants, Mulching Machine, Oiler, Parapet-Concrete or Pavement Grinder, Power Broom (Towed), Power Heaterman, Revinus Widener, Shell Winder, Steamcleaner, Tractor.

GROUP 5 - Master Mechanic

GROUP 6 - Crane Premium with Boom Length and Jib 150' - 199'

GROUP 7 - Crane Premium with Boom Length and Jib 200' and Over.

Tower Crane Premium	\$.50
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Hazmat work premium	\$2.50
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Hydrographic	\$.50
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FOOTNOTES:

a. PAID HOLIDAYS: New Year's Day, Memorial Day, Independence

Day, Labor Day, Thanksgiving Day, Christmas Day, provided the employee works the day before and the day after the holiday.

 ENGI0106M 05/01/2001

Rates Fringes

NORTHERN PART OF DUTCHESS (TO THE NORTHERN BOUNDARY LINE OF
 THE CITY OF POUGHKEEPSIE) BUILDING CONSTRUCTION

POWER EQUIPMENT OPERATORS:

GROUP 1:	22.67	11.90+a
GROUP 2:	24.14	11.90+a
GROUP 3:	22.64	11.90+a
GROUP 4:	22.24	11.90+a
GROUP 5:	21.57	11.90+a
GROUP 6:		
1	24.49	11.90+a
2	24.84	11.90+a
3	25.64	11.90+a
4	26.14	11.90+a
5	26.64	11.90+a
GROUP 7		
1	24.64	11.90+a
2	25.64	11.90+a
3	26.14	11.90+a
4	26.54	11.90+a
GROUP 8	22.92	11.90+a
GROUP 9	25.14	11.90+a

Hazardous work - Anytime Operating Eninegeers
 are involved with level C or above, \$2.50 per
 hour over regular rate.

FOOTNOTE:

a. Paid Holiday: New Years Day, Memorial Day, Independence Day
 Labor Day, Thanksgiving Day, Christmas Day,

POWER EQUIPMENT OPERATOR CLASSIFICATIONS

GROUP 1: Self-contained crawler drill, hydraulic rock drill.

GROUP 2: Crane, hydraulic cranes, tower crane, locomotive crane,
 piledriver, cableway, derricks, whirllies, dragline, boom truck
 (over 5 tons)

GROUP 3: Shovel, All backhoe (except tractor mounted rubber
 tired John Deere 510 or smaller), gradalls, power road grader,
 all CMI equipment, front-end rubber tire loader, tractor-mounted
 drill (quarry master), mucking machine, concrete central mix
 plant, concrete pump, Belcrete system, automated asphalt concrete
 plant and tractor road paver, boom truck (5 tons and under).

GROUP 4: Backhoe, (tractor mounted rubber tired equivalent to
 John Deere 510 or less), bulldozer, pushcat, tractor,
 traxcavator, scraper, LeTourneau grader, form fine grader, road
 roller, blacktop roller, blacktop spreader, power brooms,
 sweepers, trenching machine, Barber Green loader, side booms,
 hydrohammer, concrete spreader, concrete finishing machine, one
 drum hoist, power hosting (single drum), hoist - two drum or

more, three drum engine, power hoisting (two drum and over), two drum and swinging engine, three drum swinging engine, hod hoist, A-L frame winches, cord and well drillers (one drum), post hole digger, model CHB Vibro-Tamp or similar machine, batch bin and plant operator, dinkey locomotive, skid steer loader, track excavator 5/8 cu. yd. or smaller.

GROUP 5: Fork lift, high lift, lull, Oiler, fireman and heavy-duty greaser, boilers, and steam generators, pump, vibrator, motor mixer, air compressor, dust collector, welding machine, well point, mechanical heater, generators, temporary light plants, concrete pumps, electric submersible pump 4" and over, murphy type diesel generator, conveyor, elevators, concrete mixer and belcrete power pack (belcrete system), seeding, and mulching machines, pumps.

GROUP 6: Boom length premiums over GROUP II rates:

1	over 130 ft	.35
2	over 185 ft	.70
3	over 210 ft	1.50
4	over 250 ft	2.00
5	over 295 ft	2.50

GROUP 7: Tower Crane Premium over GROUP II rates:

1	over 5 stories	.50
2	over 10 stories	1.50
3	over 15 stories	2.00
4	over 20 stories	2.50

GROUP 8: Master Mechanic (other than nuclear work)

GROUP 9: Master Mechanic on nuclear work

 ENGI0137B 03/05/2001

	Rates	Fringes
DUTCHESS COUNTY (POUGHKEEPSIE AND SOUTH THERE-OF)		
BUILDING CONSTRUCTION		
POWER EQUIPMENT OPERATORS:		
GROUP 1-A	31.65	15.95+a
GROUP 1-B	29.25	15.95+a
GROUP 2-A	30.60	15.95+a
GROUP 3-A	29.50	15.95+a
GROUP 3-B	28.05	15.95+a
GROUP 4-A	29.20	15.95+a
GROUP 4-B	27.90	15.95+a
GROUP 5-A	28.10	15.95+a
GROUP 5-B	26.65	15.95+a
GROUP 6-A-1	33.25	15.95+a
GROUP 6-A-2	32.20	15.95+a
GROUP 6-A-3	31.10	15.95+a
GROUP 6-A-4	33.70	15.95+a
GROUP 6-A-5	36.65	15.95+a
GROUP 6-A-6	28.90	15.95+a
GROUP 6-A-7	38.45	15.95+a
GROUP 6-B-1	25.30	15.95+a

GROUP 6-B-2	26.50	15.95+a
GROUP 6-B-3	26.55	15.95+a
GROUP 6-B-4	26.65	15.95+a
GROUP 6-B-5	29.00	15.95+a

NOTES: Hazmat: 20% above regular rage

Pumping operation Premium	.50
Crane Operators (100-149 ft)	2.00
Crane Operators (149 ft +)	3.00
Loader Operators (over 5 cu yd)	.50
Shovel Operators (over 4 cu yd)	1.00

FOOTNOTE:

- a. New Years Day, Memorial Day, Independence Day, Labor Day
Thanksgiving Day, Christmas Day, plus Lincoln's Birthday,
Washington's Birthday, Good Friday, Columbus Day,
November Election Day, Veteran's Day.

POWER EQUIPMENT OPERATORS CLASSIFICATION

GROUP 1-A: Carrier- trailer horse; concret-portable hoist; crane & hoist engineer-steel (concrete, material, super structure sub-structure); derrick (stone-steel); elevator & cage; hoist-single/double or triple drum; hoist-portable mobile unit; hoist engineer-concert (crane-derrick-mine hoist); hoist engineer-material; overhead crane; power house plant; telephies (cableway); whirly; maintenance engineer; Lull hilit or similar; hydraulic crane 25 ton and over; cherry picker 25 tons and over; backhoe Oliver 88; fordson; dynahoe; dual purpose and similar machines; Barber Green Loader-euclid loader or similar type; conway or similar mucking macking machines; dragline; gradall; shovel; backhoe etc. (crawler or truck); front end loaders; hydraulic boom; jersey spreader; lift slab console; letournequ or tounapull (scrapers over 20 yds struck); mucking machines; pavement breaker (air ram); paver (concrete); road boring machine; road mix machines; ross carrier and similar machines; post hole digger; shovel (tunnels); side boom; spreader (asphalt); scoopmobile-tractor-shovel over 1 1/2 yds. trenching machines vermeer concrete saw trencher and similar; tractor type demolition equipment; winch truck (a frame); hydraulic crane over 10 ton up to 25 ton); cherry picker over 10 ton up to 25 ton)

GROUP 1-B: Compressor (steel erection); pulse meter and push button buzz box; elevator; mechanic (outside) all types; welder; scrapers 20 yds struck and under; machine pulling sheep's foot roller; vibratory rollers; roller 4 tons and over.

GROUP 2-A: Compactor self-propelled; grader; bulldoze D7 and similar tractors with a draw bar horsepower of 100 or over; bulldozer D6 and under; welder; scraper 20 yds struck and under; machine pulling sheep's foot roller; vibratory rollers.

GROUP 3-A: Asphalt plant; boiler (high pressure); concrete mixing plants; concrete pump; firemen; forklift; forklift (electric); joy drill or similar tractor drilling machine; loader - 1 1/2 yards and under; locomotive (all sizes); mixer concrete - 21E and over; portable asphalt plant; portable batch plant;

portable crusher; quarry master; stone crusher; well drilling machine and well point system; cherry picker under 10 tons; hydraulic crane under 10 tons; concert buffy; one yard an up ride on dumper (benford or similar).

GROUP 3-B: Compressor over 125 cu. feet; conveyor belt machine regardless of size; lighting unit (portable & generator); welding machine (steel erection and excavation); and compressor plant; stud machine; ladder hoist.

GROUP 4-A: Air tractor drill; batch plant; bending machine; concrete breaker; concrete spreader; curb cutter machine; farm tractor (all types); finishing machine-concrete; hepavac clean air machine (all similar types: removal of asbestos etc.); material hopper-sand-stone-cement; mixer-concrete-under 21E; mulching grass spreader; pump-gypsum, etc., pump-plaster-grout -fireproofing; shop mechanic (not employed on job site); roller under 4 ton; spreading and fine grading machine; steel cutting machine; syphon pump-air-steam; tar joint machine; turbo jet burner or similar equipment; vibrator (1 to 5); fine grading machine; roof hoist (tugger hoist); television cameras-water-sewer-gas-etc.

GROUP 4-B: Compressor to 135 feet; dust; dust collector; heater all types; pump; pump station (water and sewer); steam jenny; sweeper; chipper; mulcher.

GROUP 5-A: Concrete saw; oiler fuel truck and oiler grease truck.

GROUP 5-B: Oiler; paint compressor; motorized roller (walk behind); stockroom attendant.

GROUP 6-A-1: master mechanic.

GROUP 6-A-2: helicopter hoist operator.

GROUP 6-A-3: welder-certified.

GROUP 6-A-4: engine-pile driver.

GROUP 6-A-5: helicopter-pilot

GROUP 6-A-6: helicopter-signalman

GROUP 6-A-7: Engineers for all tower cranes, all climbing cranes and all cranes of 100 ton capacity or greater (3900 Manitowac or similar) irrespective of manufacturer and regardless of how the same is rigged (except for pile rigs).

GROUP 6-B-1: Utility man.

GROUP 6-B-2: warehouse man.

GROUP 6-B-3: oiler (asphalt paver)

GROUP 6-B-4: cable splicer.

 ENGI0137C 03/05/2001

	Rates	Fringes
DUTCHESS (Poughkeepsie and South thereof)		
POWER EQUIPMENT OPERATORS (HEAVY & HIGHWAY)		
GROUP 1	33.99	16.11+a
GROUP 1-A	31.80	16.11+a
GROUP 1-B	32.90	16.11+a
GROUP 2-A	30.51	16.11+a

GROUP 2-B	30.63	16.11+a
GROUP 3	30.00	16.11+a
GROUP 4-A	27.38	16.11+a
GROUP 4-B	23.71	16.11+a
GROUP 5-A-1	33.60	16.11+a
GROUP 5-A-2	32.59	16.11+a
GROUP 5-A-3	38.56	16.11+a
GROUP 5-A-4	34.35	16.11+a
GROUP 5-A-5	31.40	16.11+a
GROUP 5-A-6	36.91	16.11+a
GROUP 5-A-7	30.37	16.11+a
GROUP 5-A-8	30.64	16.11+a
GROUP 5-B-1	22.62	16.11+a
GROUP 5-B-2	25.69	16.11+a
GROUP 5-B-3	22.29	16.11+a

POWER EQUIPMENT OPERATORS CLASSIFICATIONS (HEAVY & HIGHWAY)

GROUP 1: Boom Truck; Cherry Picker; Clamshell; Crane, (Crawler, Truck); Dragline; Rough Terrain Crane

GROUP 1-A: Auger; Auto Grader; Dynahoe and Dual purpose and similar machines; Boat Captain; Boring Machine (all types); Bull Dozer- all sizes; Central Mix Plant Operator; Chipper-all types; Close circuit t.v.; Compactor with Blade; Concrete Portable Hoist; C.M.I. or similar; Conway or similar mucking machines; Gradall, Shovel Backhoe, etc. Grader; Derrick, (Stone- Steel; Elevator & cage, materials or passengers; Front end loaders over 1 1/2 yds.; Hoist Single, Double, Triple Drum, Hoist Portable Mobile Unit; Hoist Engineer-Concrete (Crane-Derrick-Mine Hoist); Hoist Engineer-Material, Hydraulic Boom; Letourneau or Tournapull (Scrapers over 20 yds. struck); Log Skidder; Movable Concrete Barrier Transfer & Transport Vehicle; mucking machines; overhead crane; paver (concrete); pulsemeter; push button (buzz box) elevator; road mix machines; Robot Hammer (brock or similar), Ross carrier and similar machines; shovels (tunnels); side boom; Slip Form Machine; spreader (asphalt); scoopmobile-tractor-shovel over 1 1/2 yards; trenching machines; telephies-vermeer concrete saw trencher and/or similar; tractor-type demolition equipment, Whirly

GROUP 1-B: Road Paver, Asphalt

GROUP 2-A: Balast Regulators; Compactor self-propelled; Cow Tracks; Fusion Machine; Rail Anchor Machines; Roller 4 ton and over; Scrapers - 20 yards struck; Switch Tampers; Vibratory roller, etc.

GROUP 2-B: Mechanic (outside) all types

GROUP 3-A: Air tractor drill; asphalt plant; batch plant; boiler (high pressure; concrete breaker; concrete pump concrete spreader; curb cutter machine; farm tractor (all types); finishing machine (concrete); fine grading machine; fireman; forklift; forklift (electric); joy drill or similar tractor drilling machine; loader - 1 1/2 yards and under; locomotive (all sizes), maintenance engineer; machine pulling sheeps foot roller;

material hopper; mixer concrete - 21-E and over; mulching grass spreader; portable asphalt plant, portable batch plant, portable crusher; powerhouse plant; quarry master; roller under 4 ton; spreading and fine grading machine; steel cutting machine; stone crusher; sweeper; turbojet burner or similar; well drilling machine ; winch truck "A" frame.

John Henry Drill or similar.

GROUP 4-A: Service men (fuel or grease truck).

GROUP 4-B: Oiler; Compressor - compressor plant; paint compressor -steel erection; conveyor belt machine; lighting unit (portable & generator); oiler; pumps - pump station-water-sewer-gypsum- plaster, etc.; roller-motorized (walk-behind); welding machine (steel erection excavation); well point system; bending machine; dust collector; mixer - concrete under 21-E; heater all types; steam jenny; syphon pump-air-steam; tar joint machine; vibrator (1 to 5); Compressor Truck Mounted (2-6)

GROUP 5-A-1: Master Mechanic

GROUP 5-A-2: Helicopter hoist operator.

GROUP 5-A-3: Engineer - all tower cranes, all climbing cranes and all cranes of 100 ton capacity or greater (3900 Manitowac or similar) irrespective of manufacturer and regardless of how the same is rigged (except for pile rigs).

GROUP 5-A-4: Hoist Engineer - steel - sub-structure; Engineer-- Pile Driver

GROUP 5-A-5: Welder-Certified

GROUP 5-A-6: Helicopter - pilot.

GROUP 5-A-7: Helicopter - signalman.

GROUP 5-A-8: Jersey-spreader, pavement breaker (air ram); Post Hole Digger

GROUP 5-B-1: Utility Man

GROUP 5-B-2: Concrete Saw

GROUP 5-B-3: Oiler

NOTES:

Loader Operator (over 5 cu yds) .50

Shoval Operators (over 4 cu yd) 1.00

Hazmat premium over regular rate 20%

FOOTNOTE:

a. PAID HOLIDAYS: New Year's Day; Lincoln's Birthday; Good Friday; Memorial Day; Independence Day; Labor Day; Veterans Day; Columbus Day; November Election Day; Thanksgiving Day; and Christmas Day

ENGI0825K 07/01/2001

	Rates	Fringes
ORANGE, ULSTER AND SULLIVAN COUNTIES		
POWER EQUIPMENT OPERATORS (BUILDING HEAVY & HIGHWAY):		
GROUP 1	31.87	16.20+a
GROUP 2	30.28	16.20+a
GROUP 3	28.37	16.20+a
GROUP 4	26.74	16.20+a

GROUP 5	25.03	16.20+a
GROUP 6	33.69	16.20+a

NOTES:

Hazmat Premium	20%
Hydrographic Premium	.50

POWER EQUIPMENT OPERATORS CLASSIFICATIONS (BLDG, HEAVY & HWY)

GROUP 1: Autograde-Pavement-Profiler (CMI and Similar Type); Autograde-Pavement-Profiler (CMI and Similar Types); Autograde Slipform Paver (CMI and Similar Types); Backhoe; Central Power Plants (all types); Concrete Paving Machine (s-240 and Similar Types); Cranes (All Types, Including Overhead and Straddle Traveling Type); Cranes, Gantry; Derricks (Land, Floating or Chicago Boom Type); Drillmaster/Quartmaster (Down the Hole Drill) Rotary Drill; Self-Propelled, Hydraulic Drill, Self-Powered Drill Draglines, Elevator Graders, Front End Loaders (5 yds. and over), Gradalls, Grader: Rago, Helicopters (Copilot), Helicopters, (Communication Engineer), Locomotive (large), Mucking Machines, Pavement and Concrete Breaker (Superhammer, Hoe Ram, Brokk 250 and Similar Types), Pile Driver (length of boom including length of leads shall determine premium rate applicable), Roadway Surface Grinder Scooper (loader and shovel), Shovels, Tree Chooper with Boom, Trench Machines, Tunnel Boring Machines.

GROUP 2: "A" Frame; Backhoe (Combination); Boom Attachment on Loaders (Rate based on size of bucket) not applicable to Pipehook) Boring and Drilling Machines, Brush Chopper, Shredder and Tree Shredder Tree Shearer, Cableways, Carry-alls, Concrete Pump, Concrete Pumping System, Pumpcrete and Similar Types, Conveyors, 125 ft and over; Drill Doctor (duties include dust collector, maintenance), Front End Loader (22 yds. but less than 2 yds.), Graders (Finish); Groove Cutting Machine (ride on type), Heater Planer; Hoists: (all type hoists, Shall Also Include Steam, Gas, Diesel, Electric, Air Hydraulic, Single and Double Drum, Concrete, Brick Shaft, Caisson, Snorkel Roof, and or any other similar type Hoisting Machines, Portable or Stationary, Except Chicago Boom Type). Long Boom Rate to Be Applied if Hoist is "outside material lower hoist"; Hydraulic Cranes-10tons and Under; Hydro-Axe; Hydro-Blaster; Jacket (Screw Air Hydraulic Power Operated Unit or Console Type: Not Hand Jack or Pile Load Test Type), Log Skidder; Pans, Pavers (all) Concrete; Plate and Frame Filter Press; Pumpcrete Machines; Squeeze Crete and Concrete Pumping (regardless of size); Scrapers; Sidebooms; Straddle Carrier, Ross and Similar Types; Vacuum Truck; Whip Hammer; Winch Trucks (Hoisting).

GROUP 3: Asphalt Curbing Machine, Asphalt Plant Engineer, Asphalt Spreader; Autograde Tube Finisher & Texturing Machine (CMI and Similar types) Autograde Curecrete Machine (CMI and Similar Types); Bar Bending Machines (power), Batchers, Batching Plant and Crusher on-site; Belt Conveyor Systems; Boom Type Skimmer Machines; Bridge Deck Finisher; Bulldozers (all); Car Dumpers (A:road); Chief of Party; Compressor and Blower Type Units (used)

Independently or Mounted On Dual Purpose Trucks, On Job Site or In Conduction with Job Site, In Loading and Unloading of Concrete, Cement, Fly Ash, Instantcrete, or Similar Type Materials); Compressor 92 or 3 in Battery); Concrete Finishing Machines; Concrete Saws and Cutters (ride on type); Concrete Spreaders, Hetzel, Rexomatic and Similar types; Concrete Vibrators; Conveyors, Under 125 ft), Crushing Machines, Ditching Machine, Small (ditchwitch, Vermeer or Similar type); Dope Dots (mechanical with or without pump), dumpsters; Elevator; Fireman; Forklifts (economobile, lull, and similar types of equipment); Front End Loaders (1 yd. and over but less than 2 yds.); Generators (2 or 3 in Battery/ within 100 ft); Giraffe Grinders, Graders and Motor Patrols; Grout Pump; Gunnite Machines (excluding nozzle); Hammer Vibratory (in conduction with generators); Hoists (Roof, Tuggeraerial Platfrom Hoist and House Cars), Hoppers, Hoppers Doors (power operated); Hydro-Blaster (where required); Ladders (Motorized); Laddervator; Locomotive, Dinky type; Maintenance, Utility Man; Mechanics; Mixers (Excepting Paving Mixers); Motor Patrols and Graders; Pavement Breakers, Small, Self-Propelled ride on type (also maintains compressor or hydraulic unit); Pavement Breaker, Truck Mounted; Pipe Bending Machine (power); Pitch Pump; Plaster Pump (regardless of size); Post Hole Digger (post pounder and auger); Rod Bending Machines (power); Roller, Black Top; Scales, (power); Seaman Pulverizing Mixer; Shoulder Widener; Silos; Skimmer Machines (Boom Type); Steel Cutting Machine, Services and Maintains; Tamrock Drill; Tractors; Tug Captain; Vibrating Plants (used in conduction with unloading); welder and Repair Machines. Concrete cleaning/decontamination machine operator; Directional boring machine; Heavy equipment robotics operator; Master environmental maintenance operator; Ultra high pressure waterjet cutting tool system operator; maintenance operator; Vacuum blasting machine operator

GROUP 4: Brooms and Sweepers; Chippers; Compressors (single); Concrete Spreaders (small type); Conveyor Loaders (not including Elevator Graders); Engines, Large Diesel (1620 h.p.) and Staging Pump; Farm Tractors; Fertilizing Equipment (Operator and Maintenance of); Fine Grade Machine (small type); Form Line Graders (small type); Front End Loader (under 1 yd); Generator (single); Grease, Gas, Fuel and Oil Supply Trucks; Heaters (Nelson or Other Type Including Propane, Natural Gas or Flowtype Units); Lights, Portable Generating Light Plants; Mixers, Concrete Small; Mulching Equipment (Operation and Maintenance of); Pumps (2 of Less Than 4 Inch Suction); Pumps 94 Inch Suction and Over Including Submersible Pumps); Pumps (Diesel Engine and Hydraulic); Immaterial of Power; Road Finishing Machines (Small Type); Rollers, Grade, Full Or Stone Base; Seeding Equipment (Operation and maintence of); Sprinkler and Water Pump Trucks (Used on job Site or in conduction with Job Site); Steam Jennies and Boilers, Irrespective of Use; Stone Spreader; Tamping

Machines, Vibrating Ride On; Temporary Heating Plant (nelson or Other Type, Including Propane, Natural Gas or Flow Type Units); Water and Sprinkler Trucks (Used On Job Site In Conduction with Job Site); Welding Machines-Within 100 ft (Gas, and /or Electric Converters of any type, single, tow or three in a battery). welding system, multiple (rectifier transformer type) well point systems (including installation by bull gang and maintenance of); Off Road back dumps.

GROUP 5: Oiler

GROUP 6: Helicopter Pilot

FOOTNOTE:

- a. PAID HOLIDAYS: New Years Day, Washington's Birthday Memorial Day, July 4th, Labor Day, Veteran's Day, Election Day, Thanksgiving Day, and Christmas Day, provided the employee works one day during the calendar week in which the holiday occurs

ENGI0825L 07/01/2001

	Rates	Fringes
ORANGE, ULSTER AND SULLIVAN COUNTIES		
POWER EQUIPMENT OPERATORS		
BUILDING CONSTRUCTION STEEL ERECTION		
GROUP 1	34.64	16.20+a
GROUP 2	33.73	16.20+a
GROUP 3	31.44	16.20+a
GROUP 4	28.78	16.20+a
GROUP 5	27.25	16.20+a
GROUP 6	25.49	16.20+a
GROUP 7	35.50	16.20+a

NOTES:

Hydrographic Premium	.50
Hazmat Premium	20%
Tunnel Premium	.75

STEEL ERECTION CLASSIFICATIONS

GROUP 1: Cranes (All Cranes, Land or Floating with Booms Including Jib 140 ft and over, Above Ground); Derricks, Land, Floating or Chicago Boom Type with Booms including Jib 140 ft and over above ground).

GROUP 2: Cranes (All Cranes, Land or Floating with Booms Including Jib Less Than 140 ft Above Ground); Derricks, Land, Floating or Chicago Boom Type with Booms Including Jib Less Than 140 ft above Ground).

GROUP 3: "A" Frame, Cherry Pickers 10 tons and under, Hoists Shall Also Include Steam, Gas, Desel, Electric, Air Hydraulic, Single and Double Drum Concrete, Brick Shaft Caisson, or Any Other Similar Type Hoisting Machines, Portable or Stationary, Except Chicago Boom Type; Jacks: Screw Air Hydraulic Power Operated unit or Console Type (not hand Jack or Pile Load Test Type); Side Booms.

GROUP 4: Aerial Platform used as Hoist; Compressor: 2 or 3 in

Battery; Elevators or House Cars; Conveyors and Tugger Hosits;
 Chief of Party; Firemanp; Forklift; Generators (2 or 3);
 Maintenance (Utility Man); Rod Bending Machine (power); Welding
 Machines (Gas or Electric, 2 or 3 in Battery, Including Diesels);
 Captain: Power Boats: Tug Master: Power Boats.

GROUP 5: Compressor, Single; Welding Machine, Single, Gas,
 Diesel, and Electric Converters of any Type: Welding System
 Multiple (Rectifier Transformer Type); Generator, Single.

GROUP 6: Oiler

GROUP 7: Helicopter Pilot .

FOOTNOTE:

- a. PAID HOLIDAYS: New Years Day, Washington's Birthday,
 Memorial Day, Independence Day, Labor Day, Veteran's Day,
 Election Day, Thanksgiving Day, and Christmas Day, provided
 the employee works one day in the calendar week during
 which the holiday occurs.

 POWER EQUIPMENT OPERATORS

BUILDING CONSTRUCTION TANK ERECTION

GROUP 1	34.36	16.20+a
GROUP 2	33.52	16.20+a
GROUP 3	35.00	16.20+a
GROUP 4	31.43	16.20+a
GROUP 5	26.22	16.20+a

NOTES:

Tunnel Premium	.75
Hazmat Premium	20%
Hydrographic Premium	.50

TANK ERECTION CLASSIFICATIONS

GROUP 1: Operating Engineers on all Cranes, Derricks, ets with
 Booms Including Jib 140 ft or More Above Ground.

GROUP 2: Operating Engineer on all Equipment, Including Cranes,
 Derricks, ets with Booms Including Jib, Less Than 140 ft above
 the ground.

GROUP 3: Helicopter Pilot Engineer.

GROUP 4: Air Compressors, Welding Machines and Generators are
 0 Covered and are Defined as Cover: Gas, Diesel, or Electric Driven
 1 Equipment and Sources of Power from a Permanent Plant: ie: Staem,
 2 Comgressed Air, Hydraulic or Other Power, For The Operating of
 3 any Machine or Automatic Tools, Used In The Erection, Alteration,
 4 Repair and Dismantling of Tanks and Any and All "Dual Purpose"
 5 Trucks Used On The Construction Job Site, or in the Loading and
 6 Unloading of Materials, at the Construction Job Sited or in
 7 Conjunction with the Job Site.

8

9 GROUP 5: Oiler

0

1 FOOTNOTE:

- 2 a. PAID HOLIDAYS: New Years Day, Washington's Birthday,
 3 Memorial Day, Independence Day, Labor Day, Veteran's Day,

4 Election Day, Thanksgiving Day, and Christmas Day provided
 5 the Employee works one day in the calendar week during
 6 which the holiday occurs

7
 8 -----

9 POWER EQUIPMENT OPERATORS

0 OILOSTATIC MAINLINES AND TRANSPORTATION PIPE LINES:

1			
2	GROUP 1	32.50	16.20+ a
3	GROUP 2	30.85	16.20+ a
4	GROUP 3	28.71	16.20+ a
5	GROUP 4	27.21	16.20+ a
6	GROUP 5	25.49	16.20+ a
7	GROUP 6	34.43	16.20+ a

8
 9 NOTES:

0	Hydrographic Premium	.50
1	Hazmat Premium	20%
2	Tunnel Premium	.75

3
 4 OILSTATIC MAINLINES AND TRANSPORTATION PIPE LINES
 5 CLASSIFICATIONS

6
 7 GROUP 1: Backhoe; Cranes (all types); Draglines, Front End
 8 Loaders (5yds. and over), Gradalls, Helicopters (co-pilot),
 9 Helicopters (Communication Engineer); Scooper (Loader and
 0 Shovel) Koehring; Trench Machines.

1
 2 GROUP 2: "A" Frame; Backhoe (Combination Hoe Loader); Boring and
 3 Drilling Machines; Ditching Machines, Small, Ditchwitch, Vermeer
 4 or Similar type; Forklifts; Front End Loaders 92 yds. and over
 5 but less than 5 yds.); Graders, Finish (fine); Hydraulic Cranes
 6 10 tons and under (over 10 tons) Cranes Rate Applies); Side
 7 Booms; Winch Trucks (Hoisting).

8
 9 GROUP 3: Backfiller; Brooms and Sweepers; Bulldozers; Compressor
 0 (2 or 3 in battery); Chief of Party; Front End Loaders (under 2
 1 yds); Generators; Giraffe Grinders; Graders and Motor Patrols;
 2 Machnic; Pipe Bending Machine (power); Tractors; Water and
 3 Sprinkler Trucks used on Job Site or in Conduction with Job
 4 Site); Welder and Repair Mechanic; Captain (power boats); Tug
 5 Master (power boats).

6
 7 GROUP 4: Compressor (single); Dope Pots (Mechanical with or
 8 without Pump); Dust Collectors; Pumps (4 inch suction and over);
 9 Pumps (2 of less than 4 inche suction); Pumps, Diesel Engine and
 0 Hydraulic (immaterial of power); Welding Machines, Gas or
 1 Electric Converters of any type- 2 or 3 in Battery Multiple
 2 Welders; Well Point Systems (including installation and
 3 Maintenance); Fram Tractors.

4
 5 GROUP 5: Oiler, grease, gas, fuel and oil supply trucks;
 6 Tire repair and maintenance
 7
 8 GROUP 6: Helicopter Pilot
 9
 0 FOOTNOTE:
 1 a. Paid Holidays: New Years Day, Washington's Birthday,
 2 Memorial Day, Independence Day, Labor Day, Veteran's Day,
 3 Election Day, Thanksgiving Day, and Christmas Day Provided
 4 the Employee works one day in calendar week during which
 5 the holidays occurs.

6 -----
 7
 8 IRON0417A 07/01/2001
 9

	Rates	Fringes
0 IRONWORKERS	26.00	22.35

 1 -----
 2

3 LABO0017M 07/01/2001
 4

	Rates	Fringes
5 ORANGE, ULSTER, SULLIVAN 6 AND DUTCHESS COUNTIES 7 8 LABORERS		

 9

0 BUILDING CONSTRUCTION:

1			
2	GROUP 1	19.25	8.85
3	GROUP 2	22.50	8.85
4	GROUP 3	24.30	8.85
5	GROUP 4	27.05	8.85

6
 7 LABORERS BUILDING CLASSIFICATIONS
 8

9 GROUP 1: Custodial work, flag person, traffic control person,
 0 toll room tender, temporary heat tender, temporary light tender,
 1 portable pump tender, portable generator tender.
 2

3 GROUP 2: Common laborers, general clean-up person, safety &
 4 firewatch person, temporary weather protection, snow removal,
 5 dump area person, wrecking, demolition, dismantling person,
 6 landscaping person, chuck tender, poured gypsum roof work, water
 7 proofing, styrofoam installation persons, tile setter tender,
 8 carpenter tender.
 9

0 GROUP 3: Asphalt laborer, pump concrete machines, fire proofing &
 1 acoustic pumps & mixers, gunite, sand blasting, pressure blasting,
 2 singal person, air or electric chipping hammer, barmen, pavement
 3 breaker, jack hammer, hydraulic splitter, air track, power man,

4 pipelayer, conduit layer, duct bank layer, vibro, baco, jay
 5 tamper, walk behind tamper, or similar type walk behind rollers,
 6 radio controlled tampers & rollers, chain saw operator, scaffold
 7 builder, concrete laborer, hod carriers, concrete mixer, concrete
 8 vibrator, walking power biggy, riding power buggy, power driven
 9 mortar mixer, power driven plaster mixer & mason tender; concrete
 0 saw, granite, stone or manufactured curbing, surface setting of
 1 all block, brick, stone, assembling & placing of gabion basket or
 2 similar, rip rap, low fork lifts and laser operations under
 3 laborers jurisdiction, form setting burner-torch), chain link
 4 fence, wagon drill, joy & gib drills, Ingersol Rand, heavy duty
 5 crawler-master type HCMZ, drill machines or equivalent, all
 6 wrecking, demolition or dismantling above fourteen (14) feet,
 7 erecting and dismantling or scaffolding above fourteen (14) feet,
 8 cleaning machine.

9

0 GROUP 4: All work related with asbestos, or any toxic and
 1 hazardous material, blasting, leroy hydraulic or similar,
 2 scaffold or platform work thirty (30) feet or more above surface
 3 and high fork lift, fireproof spraying.

4 -----

5

6 LABORERS HEAVY & HIGHWAY:

7

8	GROUP 1:	19.25	10.50+a
9	GROUP 2:	23.75	10.50+a
0	GROUP 3:	24.85	10.50+a
1	GROUP 4:	25.55	10.50+a
2	GROUP 5:	28.30	10.50+a

3

4 FOOTNOTE:

5 a. PAID HOLIDAYS: New Years Day, President's Day, Memorial Day,
 6 Independence Day, Labor Day, Election Day, Veterans Day,
 7 Thanksgiving Day, Christmas Day

8

9 LABORERS HEAVY AND HIGHWAY CLASSIFICATIONS

0

1 GROUP 1: Flagperson, placing and maintenance of all flares,
 2 cones, light, signs, barrllcades, traffic patterns all reflective
 3 type materials for traffic control, custodial work, traffic
 4 directors, temporary heat, snow removal and firewatch

5

6 GROUP 2: General laborers, chuck tender, handling and
 7 distributing drinking water, distributing all tools and supplies
 8 of laborers, nipper, powder carrier, magazine tender, warehouse
 9 laborers, concrete man, vibrator man, mason tender, mortar man,
 0 spraying, brushing and covering of concrete for curing and
 1 preservative purposes, traffic striper, scaffold builder,
 2 concrete crub and sidewalk from setter

3

4 GROUP 3: Asphalt men, joint setter, signal man, wellpoints,
 5 conduit and layer, wire puller, rip rap and dry stone layers,
 6 steel rod carriers core drill, rock splitter, Hilti gun-air, or
 7 electric, jackhammer, chipping hammer, bush hammer, pavement
 8 breaker, wagon drill, air track, jib rig, joy drill, gunnite and
 9 sandblasting, coal pass and nozzle men on mulching and seeding
 0 machines, all guard rail and fence men, all seeding and sod
 1 laying, all landscape work, grade checkers, all bridge work, walk
 2 behind rollers, and tampers of all types, salvage stripping,
 3 wreckin and dismantling laborers (including bar men, cutting
 4 torch and burnermen), sheeting and shoring, bit grinder, operator
 5 of form pin pullers, and drivers, sandblasting, joint and jet
 6 sealers, filling and wiring of baskets for gabion walls,
 7 permanent sing men, medium barrier, stawall or similar type
 8 product, chain saw operator, railroad track laborers,
 9 waterproofers, prestressed and pre-cast concrete, crubs, brick
 0 and block and stone pavers, power tool used to perform work
 1 usually done by laborers, power buggy and pumpcrete operator,
 2 fireproof, plaster and acoustic pump, asbestos, toxic or
 3 hazardous materials abatement when protective clothing and
 4 equipment is not required, power brush cutter behind surface
 5 planer, welding related to laborers work, remote controlled
 6 equipment normally operated by laborers.

7
 8 GROUP 4: Concrete finisher and form setter for concrete pavement,
 9 gunnite nozzle man, sotne cutters, granite stone layer, manhole
 0 and catch basin on inlet installing, Ingersoll Rand heavy duty
 1 crawler-master HCMZ, any drill using a 4" or larger bit, mortar
 2 mixer and forlk lift operator, laser men.

3
 4 GROUP 5: Asbestos, toxic, or hazardous material abatement
 5 when protective clothing and equipment is required. LeRoi
 6 hydraulic drill or similar, scaffold or platform work thirty (30)
 7 feet above the surface, high fork lift fireproof spraying.

8
 9 TUNNEL, SHAFT & CASSION WORK
 0

1	GROUP 1	24.20	10.50+a
2	GROUP 2	26.15	10.50+a
3	GROUP 3	26.65	10.50+a
4	GROUP 4:	29.35	10.50+a

5
 6 FOOTNOTE:
 7

8 PAID HOLIDAYS: New Years Day, Presidents's Day, Memorial Day,
 9 Independence Day, Labor Day, Election Day, Veterans Day,
 0 Thanksgiving Day, Christmas Day
 1

2 TUNNEL, SHAFT & CASSION CLASSIFICATIONS
 3

4 GROUP 1: Laborer, Pit and Dumpman, Chuck Tender, Brakeman and
 5 Powder
 6
 7 GROUP 2: Miner and all machine men, Safety Miner, all shaft work,
 8 cassin work, drilling, blow pipe, all air tools, tugger scaling,
 9 nipper gunniting from pot to nozzle, bit grinder, signal man (top
 0 and bottom), shift steward, concrete man, shield driven tunnel,
 1 mixed face and soft ground liner plate tunnel in free air.
 2
 3 GROUP 3: All work under compressed air to include, but not
 4 limited to Miner and all Machine men, Safety Miner all scaling,
 5 Nipper, Gunniting from Pot to Nozzle, Bit Grinder Signal man
 6
 7 GROUP 4: Asbestos, abatement work, toxic and hazardous material
 8 when protective clothing and equipment is required.
 9 -----
 0

1 LABO1000A 06/01/2000

	Rates	Fringes
2		
3 DUTCHESS COUNTY		
4		
5 LABORERS (BUILDING CONSTRUCTION):		
6 GROUP 1	21.25	10.30+a
7 GROUP 2	21.75	10.30+a
8 GROUP 3	22.25	10.30+a
9 GROUP 4	23.25	10.30+a

0
 1 LABORERS CLASSIFICATIONS (BUILDING)
 2

3 GROUP 1: Mason tenders, carpenter tenders, laborer stripping and
 4 cleaning forms, laborer grading and digging ditches, sweepers and
 5 cleaners
 6

7 GROUP 2: Hod Carriers (plasters' helpers) scaffold builders
 8 (padlock and self-supporting scaffold 14 feet or
 9
 0 under all runways), mortar mixers (by machine under 21E)
 1 vibrators, form setters, asphalt rakers, handling reinforcement
 2 rods, working labor foreman, drillers and jack hammerers and
 3 operators, signal men, gunniting, shop stewards, motor buggs,
 4 water pumps 2" or under, Braco machine, wreckers, paving breaker,
 5 power saw operators, other machine operators.
 6

7 GROUP 3: Blaster, laser beam operator
 8

9 GROUP 4: Asbestos abatement work, toxic, and hazardous
 0 abatement and related work
 1

2 FOOTNOTE:

3 a. PAID HOLIDAYS: New Year's Day, Memorial Day, Independence

4 Day, Labor Day Thanksgiving Day, and Christmas Day

5 -----

6

7 LABO1000D 05/01/2000

8 Rates Fringes

9 DUTCHESS COUNTY

0

1 LABORERS (HEAVY & HIGHWAY):

2 GROUP 1 18.20 9.95+a

3 GROUP 2 21.71 9.95+a

4 GROUP 3 21.96 9.95+a

5 GROUP 4 22.71 9.95+a

6 GROUP 5 24.41 9.95+a

7

8 LABORERS CLASSIFICATIONS (HEAVY & HIGHWAY)

9

0 GROUP 1: Flagperson, placing and maintenance of all flares,
1 cones, light, signs, barricades, traffic control, custodial work,
2 traffic directors, temporary heat or light tenders, tool rooms.

3

4 GROUP 2: General Laborers, Dumpman, Pitman.

5

6 GROUP 3: Concrete Man, Signal Man, Pipelayer, Rip Rap, Dry Stone
7 Layer, Jackhammer, Powderman, Highscalers, Power Buggy Operator,
8 Steel Rod Carrier, Vibratory Operator, Other Machine Operator,
9 Wrecking, Vibrator Operator-Compactor, Gunite and Sand Blasting,
0 Water Pump 2" or under, Nipper, Chucker, Asphalt Workers.

1

2 GROUP 4: Asphalt Raker, Asphalt Screeman, Drillers (all), Laser
3 Beam Operator, Form Setter/Aligners, Blasters.

4

5 GROUP 5: Asbestos, Toxic, Lead, or Hazardous Material Abatement
6 when protective clothing and equipment are required.

7

8 FOOTNOTE:

9 a. PAID HOLIDAYS: New Years Day, Lincoln's Birthday, Good
0 Friday, Washington's Birthday, November Election Day,
1 Memorial Day, Independence Day, Labor Day, Columbus day,
2 Thanksgiving Day and Christmas Day and Veteran's Day.

3

4 -----

5

6 PAIN0009F 05/01/2001

7 Rates Fringes

8 DUTCHESS (All of Hyde Park and anything south of Hyde Park),

9 ORANGE, SULLIVAN, and ULSTER (All of Kingston and anything south
0 of Kingston)

1

2 GLAZIERS 30.75 19.20

3 -----

4			
5	PAIN0155B	06/01/1999	
6		Rates	Fringes
7	PAINTERS		
8	PAINTER\PAPERHANGER	19.49	8.96
9	DRYWALL FINISHERS	19.49	8.96
0	SPRAY RATE	20.49	8.96
1	STRUCTURAL STEEL	29.74	8.96
2	BRIDGES, SWING STAGE,	29.74	8.96
3	BOATSWAIN CHAIR, PICK &		
4	CABLES OVER 20 FEET		
5	LEAD ABATEMENT WORK	19.49	8.96
6	-----		
7			
8	PAIN0155D	06/01/1999	
9		Rates	Fringes
0	DUTCHESS (Anything North of Hyde Park) and ULSTER (Anything North		
1	of Kingston) COUNTIES		
2			
3	GLAIZIERS	19.00	9.62
4	-----		
5			
6	PLUM0201B	04/01/2001	
7		Rates	Fringes
8	DUTCHESS COUNTY AND THE REMAINDER		
9	OF ULSTER COUNTY		
0			
1	PLUMBERS AND STEAMFITTERS	25.50	16.08
2	-----		
3			
4	* PLUM0373B	07/01/2001	
5		Rates	Fringes
6	ZONE 1		
7			
8	ORANGE COUNTY		
9	Towns of Lakeville, Four Corners, Sterling Forest, Tuxedo		
0	Park, Southfields, Arden, Newburgh Junction, Greenwood Lake,		
1	Monroe, Harriman, Woodbury Falls, Woodbury, Woodbury Station,		
2	Central Valley, and the Palisades Interstate Park and Bear		
3	Mountain Park		
4			
5	PLUMBERS & STEAMFITTERS	29.72	18.00
6	REFRIGERATION	23.04	11.88
7	-----		
8			
9	* PLUM0373C	05/01/2001	
0			
1		Rates	Fringes
2	ZONE 2		
3			

4 SULLIVAN COUNTY (Townships of Lumberland, Forestburgh, Highland,
 5 Tusten, Mamakating, Fallsburgh, Thompson, Bethel, Cohecton,
 6 Delaware, Freemont, Callicoon, Liberty, Monticello, Neversink and
 7 Rockland); ORANGE COUNTY (Remaining Townships) and ULSTER COUNTY
 8 (Towns of Shawangurk, Wawarsing, Plattekill, Marlboro and
 9 Ellenville up to Napanoch Prison)

1	PLUMBERS AND STEAMFITTERS	25.80	14.15
2	-----		

4	ROOF0008B	07/01/2001	
5		Rates	Fringes
6	ROOFER	29.08	18.78
7	-----		

9	SFNY0669B	04/01/2001	
0		Rates	Fringes
1	SPRINKLER FITTERS	32.05	6.00
2	-----		

4	SHEE0038A	07/01/2001	
5		Rates	Fringes
6	SHEET METAL WORKERS	31.30	15.69
7	-----		

9	TEAM0445A	07/01/1998	
0		Rates	Fringes
1	TRUCK DRIVERS:		
2	GROUP 1	21.25	13.45+a
3	GROUP 2	21.15	13.45+a
4	GROUP 3	20.95	13.45+a
5	GROUP 4	20.85	13.45+a
6	GROUP 5	20.75	13.45+a

8 FOOTNOTE:
 9 a. PAID HOLIDAYS: New Year's Day; Memorial Day; Independence
 0 Day; Labor Day; Thanksgiving Day; Christmas Day Plus
 1 Washington's Birthday, Election Day, and Veterans Day,
 2 provided the employee works one day calendar week during
 3 which the holidays occurs.

5 TRUCK DRIVER CLASSIFICATIONS

7 GROUP 1: Drivers on Letourneau tractors, double barrel euclids,
 8 Athey wagons and similar equipment (except when hooked to
 9 scrapers), drivers on low beds, I-beam and pole trailers, drivers
 0 of road oil distributors, tire trucks and tractors and trailers
 1 with 5 axles and over.

3 GROUP 2: Drivers on all equipment 25 yards and over, up to and

4 including 30 yard bodies and cable dump trailers and powder and
5
6 dynamite trucks.
7

8 GROUP 3: Drivers on all equipment up to and including 24 yard
9 bodies, mixer trucks, dump crete trucks and similar types of
0 equipment, fuel trucks and all other tractor trailers.
1

2 GROUP 4: Drivers on ten-wheelers, grease trucks and tillermen.
3

4 GROUP 5: Drivers on pick-up trucks used for materials & parts,
5 drivers on escort man over-the-road and drivers on straight
6 trucks.
7

8
9 WELDERS - Receive rate prescribed for craft performing operation
0 to which welding is incidental.
1

2
3 Unlisted classifications needed for work not included within
4 the scope of the classifications listed may be added after
5 award only as provided in the labor standards contract clauses
6 (29 CFR 5.5(a)(1)(v)).
7

8 In the listing above, the "SU" designation means that rates
9 listed under that identifier do not reflect collectively
0 bargained wage and fringe benefit rates. Other designations
1 indicate unions whose rates have been determined to be
2 prevailing.
3

4 WAGE DETERMINATION APPEALS PROCESS 5

6 1.) Has there been an initial decision in the matter? This can
7 be:
8

- 9 * an existing published wage determination
- 0 * a survey underlying a wage determination
- 1 * a Wage and Hour Division letter setting forth a
- 2 position on a wage determination matter
- 3 * a conformance (additional classification and rate)
- 4 ruling
5

6 On survey related matters, initial contact, including requests
7 for summaries of surveys, should be with the Wage and Hour
8 Regional Office for the area in which the survey was conducted
9 because those Regional Offices have responsibility for the
0 Davis-Bacon survey program. If the response from this initial
1 contact is not satisfactory, then the process described in 2.)
2 and 3.) should be followed.
3

4 With regard to any other matter not yet ripe for the formal
5 process described here, initial contact should be with the Branch
6 of Construction Wage Determinations. Write to:

7

8 Branch of Construction Wage Determinations
9 Wage and Hour Division
0 U. S. Department of Labor
1 200 Constitution Avenue, N. W.
2 Washington, D. C. 20210

3

4 2.) If the answer to the question in 1.) is yes, then an
5 interested party (those affected by the action) can request
6 review and reconsideration from the Wage and Hour Administrator
7 (See 29 CFR Part 1.8 and 29 CFR Part 7). Write to:

8

9 Wage and Hour Administrator
0 U.S. Department of Labor
1 200 Constitution Avenue, N. W.
2 Washington, D. C. 20210

3

4 The request should be accompanied by a full statement of the
5 interested party's position and by any information (wage payment
6 data, project description, area practice material, etc.) that the
7 requestor considers relevant to the issue.

8

9 3.) If the decision of the Administrator is not favorable, an
0 interested party may appeal directly to the Administrative Review
1 Board (formerly the Wage Appeals Board). Write to:

2

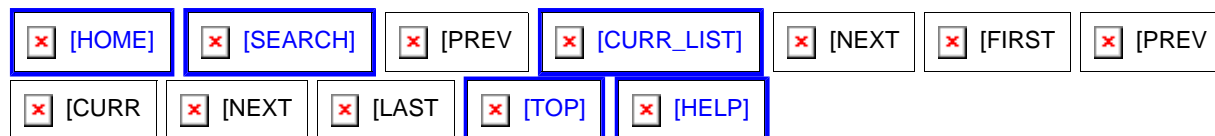
3 Administrative Review Board
4 U. S. Department of Labor
5 200 Constitution Avenue, N. W.
6 Washington, D. C. 20210

7

8 4.) All decisions by the Administrative Review Board are final.

9

END OF GENERAL DECISION



SECTION 01330
SUBMITTAL PROCEDURES
(CENAN-CO-CQ 02/99)

PART 1 GENERAL

1.1 SUMMARY

This section covers procedures to be used in making submittals called for in the contract documents. In contracts which contain specific "Contractor Quality Control" requirements, the Contractor's Quality Control Representative shall carry out duties associated with submittal procedures. In contract which do not contain specific CQC requirements, reference to "CQC Representative" shall be interpreted as reference to the Contractor's authorized representative, and references to "CQC Requirements" or "CQC Clauses" shall be interpreted as "requirements or clauses elsewhere in the contract."

1.2 SUBMITTAL IDENTIFICATION

Submittals required are identified by SD numbers as follows:

SD-01 Data

SD-04 Drawings

SD-06 Instructions

SD-07 Schedules

SD-08 Statements

SD-09 Reports

SD-13 Certificates

SD-14 Samples

SD-18 Records

SD-19 Operation and Maintenance Manuals

1.3 SUBMITTAL CLASSIFICATION

Submittals are classified as follows:

1.3.1 Government Approved (GA)

Governmental approval is required for extensions of design, critical materials, deviations, equipment whose compatibility with the entire system must be checked, and other items as designated by the Contracting Officer. Within the terms of the Contract Clause entitled "Specifications and Drawings for Construction," they are considered to be "shop drawings."

1.3.2 Information Only (FIO) All submittals not requiring Government approval will be for information only. They are not considered to be "shop drawings" within the terms of the Contract Clause referred to above.

1.4 REVIEWER CODES

Reviewer codes on the Submittal Register (ENG Form 4288) are identified as follows:

A - Area Engineer

E - Engineering (Design Branch)

AE- Architect/Engineer

1.5 APPROVED SUBMITTALS

The Contracting Officer's approval of submittals shall not be construed as a complete check, but will indicate only that the general method of construction, materials, detailing and other information are satisfactory. Approval will not relieve the Contractor of the responsibility for any error which may exist, as the Contractor under the CQC requirements of this contract is responsible for dimensions, the design of adequate connections and details, and the satisfactory construction of all work. After submittals have been approved by the Contracting Officer, no resubmittal for the purpose of substituting materials or equipment will be considered unless accompanied by an explanation of why a substitution is necessary.

1.6 DISAPPROVED SUBMITTALS

The Contractor shall make all corrections required by the Contracting Officer and promptly furnish a corrected submittal in the form and number of copies specified for the initial submittal. If the Contractor considers any correction indicated on the submittals to constitute a change to the contract, a notice in accordance with the Contract Clause "Changes" shall be given promptly to the Contracting Officer.

1.7 WITHHOLDING OF PAYMENT

Payment for materials incorporated in the work will not be made if required approvals have not been obtained.

PART 2 PRODUCTS (Not Applicable)

PART 3 EXECUTION

3.1 GENERAL

The Contractor shall make submittals as required by the specifications. The Contracting Officer may request submittals in addition to those specified when deemed necessary to adequately describe the work covered in the respective sections. Units of weights and measures used on all submittals shall be the same as those used in the contract drawings. Each submittal shall be complete and in sufficient detail to allow ready determination of compliance with contract requirements. Prior to submittal, all items shall be checked and approved by the Contractor's Quality Control (CQC) representative and each item shall be stamped, signed, and dated by the CQC representative indicating action taken. Proposed deviations from the contract requirements shall be clearly identified. Submittals shall include items such as: Contractor's, manufacturer's, or fabricator's drawings; descriptive literature including (but not limited to) catalog cuts, diagrams, operating charts or curves; test reports; test cylinders; samples; O&M manuals (including parts list); certifications; warranties; and other such required submittals. Submittals requiring Government approval shall be scheduled and made prior to the acquisition of the material or

equipment covered thereby. Samples remaining upon completion of the work shall be picked up and disposed of in accordance with manufacturer's Material Safety Data Sheets (MSDS) and in compliance with existing laws and regulations.

3.2 SUBMITTAL REGISTER (ENG FORM 4288)

At the end of this section is one set of ENG Form 4288 listing items of equipment and materials for which submittals are required by the specifications; this list may not be all inclusive and additional submittals may be required. Columns "d" through "r" have been completed by the Government; the Contractor shall complete columns "a" and "s" through "u" and submit the forms (hard copy plus associated electronic file) to the Contracting Officer for approval within 30 calendar days after Notice to Proceed (15 days if construction time is 180 days or less). If the Government supplies the ENG Form 4288 on the Resident Management System (RMS) electronic format, the contractor will be required to process and update the 4288 electronically, and make appropriate electronic submissions to the Government. Otherwise, the Contractor will be given the submittal register as a diskette containing the computerized ENG Form 4288 and instructions on the use of the diskette. In both cases, the Contractor shall update the 4288 electronically, and shall submit it to the Government together with the monthly payment request. The approved submittal register will become the scheduling document and will be used to control submittals throughout the life of the contract. The submittal register and the progress schedules shall be coordinated.

3.3 SCHEDULING

Submittals covering component items forming a system or items that are interrelated shall be scheduled to be coordinated and submitted concurrently. Certifications to be submitted with the pertinent drawings shall be so scheduled. Adequate time (a minimum of 30 calendar days exclusive of mailing time) shall be allowed and shown on the register for review and approval. No delay damages or time extensions will be allowed for time lost in late submittals. An additional 10 calendar days shall be allowed and shown on the register for review and approval of submittals for food service equipment, refrigeration and HVAC control systems, computer software for specialty systems, electrical substations, and studies including electrical system coordination studies.

3.4 TRANSMITTAL FORM (ENG FORM 4025)

The sample transmittal form (ENG Form 4025) attached to this section shall be used for submitting both Government approved and information only submittals in accordance with the instructions on the reverse side of the form. These forms will be furnished to the Contractor. This form shall be properly completed by filling out all the leading blank spaces and identifying each item submitted. Special care shall be exercised to ensure proper listing of the specification paragraph and/or sheet number of the contract drawings pertinent to the data submitted for each item. If the contractor is required in another section of the specifications to utilize the RMS system, the contractor will be required to generate and process this form electronically using the RMS system.

3.5 SUBMITTAL PROCEDURE

Submittals shall be made as follows:

3.5.1 Procedures

At the Quality Control Coordination meeting, or preconstruction conference, the Contractor shall ascertain the name and address of each individual, agency, or firm who is designated to normally receive items for approval, for information or samples. The contractor shall complete ENG Form

4025, entering each item requiring a separate approval action as a separate item on the form, for each transmittal. A transmittal may consist of one or more 4025 sheets. The transmittal, consisting of ENG Form 4025 plus all applicable submittals, is then sent to the appropriate individual. On critical items the Contractor is encouraged to confirm receipt via telephone. The Contractor shall submit seven copies of submittals for approval and one for items for information.

3.5.2 Deviations

For submittals which include proposed deviations requested by the Contractor, the column "variation" of ENG Form 4025 shall be checked. The Contractor shall set forth in writing the reason for any deviations and annotate such deviations on the submittal. The Government reserves the right to rescind inadvertent approval of submittals containing unnoted deviations.

3.6 CONTROL OF SUBMITTALS

The Contractor shall carefully control its procurement operations to ensure that each individual submittal is made on or before the Contractor scheduled submittal date shown on the approved "Submittal Register."

3.7 GOVERNMENT APPROVED SUBMITTALS

Upon completion of review of submittals requiring Government approval, the submittals will be identified as having received approval by being so stamped and dated. Four copies of the submittal will be retained by the Contracting Officer and three copies of the submittal will be returned to the Contractor.

3.8 INFORMATION ONLY SUBMITTALS

Normally submittals for information only will not be returned. Approval of the Contracting Officer is not required on information only submittals. The Government reserves the right to require the Contractor to resubmit any item found not to comply with the contract. This does not relieve the Contractor from the obligation to furnish material conforming to the plans and specifications; will not prevent the Contracting Officer from requiring removal and replacement of nonconforming material incorporated in the work; and does not relieve the Contractor of the requirement to furnish samples for testing by the Government laboratory or for check testing by the Government in those instances where the technical specifications so prescribe.

3.9 STAMPS

Stamps used by the Contractor on the submittal data to certify that the submittal meets contract requirements shall be similar to the following:

CONTRACTOR

(Firm Name)

_____ Approved

_____ Approved with corrections as noted on submittal data and/or attached sheet (s).

SIGNATURE: _____

TITLE: _____

DATE: _____

---- End of Section---

Contract No.

04200 DIV 04-1

SECTION 01420
SAFETY

nyd 7/01

1.0 SAFETY: The contractor shall comply with all applicable Federal, State, and local safety and occupational health laws and regulations. Applicable provisions of the Corps of Engineers manual entitled Safety and Health Requirements Manual EM 3851-1, dated 3 September 1996 will be applied to all work under this contract. The referenced manual may be purchased from the Contracting Officer's Representative (COR) at the job site, from the U.S. Government Printing Office, Superintendent of Documents, Mail Stop: SSOP, Washington, DC 20402-9328, or via the internet at www.USACE.army.mil.

1.1 U.S. ARMY CORPS OF ENGINEERS SAFETY AND HEALTH REQUIREMENTS MANUAL, EM 385—1-1: This paragraph applies to contracts and purchase orders that require the Contractor to comply with EM 385-1-1 (e.g. contracts that include the Accident Prevention Clause at FAR 52.236-13 and/or safety provisions). EM 385-1-1 and its changes are available at <http://www.hq.usace.army.mil> (at the HQ homepage, select Safety and Occupational Health and then select Changes to EM). The Contractor shall be responsible for complying with the current edition and all changes posted on the web as set in this solicitation.

2.0 ACCIDENT PREVENTION PROGRAM: Within fifteen (15) calendar days after receipt of Notice to Proceed, and at least ten (10) calendar days prior to the Preconstruction Safety Conference, four (4) copies of the Accident Prevention Plan shall be submitted for review and acceptance by the Contracting Officer or the Contracting Officers Representative (COR). The accident prevention program shall be prepared in the format outlined in Appendix A of EM 385 1-1, "Minimum Basic Requirements for Accident Prevention Plan".

3.0 HAZARD ANALYSIS: Prior to beginning each major phase of work, an Activity Hazard Analysis shall be prepared by the Contractor performing that work, and submitted for review and acceptance. The format shall be in accordance with EM 3851-1, figure 1-1. A major phase of work is defined as a operation involving a type of work presenting hazards not experienced in previous operations or where a new contractor or work crew is to perform. (See Contractor Quality Control specification for further guidance regarding coordination of "Activities" and "Principal Steps" indicated in the Activity Hazard Analysis with Contractor Quality Control activities). The analysis shall define the activities to be performed and identify the sequence of work, the specific hazards anticipated, and the control measures to be implemented to eliminate or reduce each hazard to an acceptable level. Work shall not proceed on that phase until the activity hazard analysis has been accepted and a preparatory meeting has been conducted by the Contractor to discuss its contents with everyone engaged in the activities, including the government on-site representative(s). The activity hazard analyses shall be continuously reviewed and when appropriate modified to address changing site conditions or operations, with the concurrence of the site safety representative, the site superintendent, and the Contracting Officer. Activity hazard analyses shall be attached to and become part of the accident prevention plan. It may also be developed prior to each phase of work undertaken in the contract.

3.1 Hazard analysis shall be used to identify and evaluate all substances, agents, or environments that present hazards and recommend control measures. Engineering and administrative controls shall be used to control hazards; in cases where engineering or administrative controls are not feasible, personal protective equipment may be used.

3.2 Information contained in MSDS (Material Safety Data Sheets) shall be incorporated in the hazard analysis for the activities in which hazardous or toxic materials will be used, or generated (e.g. fiberglass, crystalline silica, metal dust or fume, etc.).

4.0 SITE SAFETY OFFICER : The contractor shall identify an individual directly employed by the contractor as Site Safety Officer responsible to the Contractor to implement and continually enforce the Accident Prevention Plan. The site safety officer shall not be the same individual as the Quality Control System Manager if the CQC System Manager is required to have no duties other than Quality Control. The site safety officer shall have the authority to suspend operational activities if the health and safety of personnel are endangered, and to suspend an individual from operational activities for infractions of the Accident Prevention Plan.

4.1. Qualifications: The name, qualifications (training and experience) of the designated Site Safety Officer shall be included in the Accident Prevention Plan. The Site safety officer shall have the following qualifications:

- a. A minimum of 5 years construction experience with at least 2 years experience in implementing safety programs at construction work sites for projects of comparable scope and complexity.
- b. Documented experience in construction techniques and construction safety procedures.
- c. Working knowledge of Federal and state occupational health and safety regulations.
- d. Specific training in excavation safety, fall protection, and confined space.
- e. CPR/First Aid certification (current)
- f. Familiarity with and ability to use and implement the Corps of Engineers Safety Manual EM 385-1-1.

4.2. Other Requirements Other sections of the contract documents may also require separate specially qualified individuals in such areas as a chemical data acquisition, sampling and analysis, medical monitoring, industrial hygiene, quality control, etc.

5.0 SITE INSPECTIONS: The site safety officer shall perform daily inspections of the job sites and the work in progress to ensure compliance with EM 3851-1 and to determine the effectiveness of the accident prevention plan. Daily inspection logs shall be used to document inspections noting safety and health deficiencies, deficiencies in the effectiveness of the accident prevention plan, and corrective actions including timetable and responsibilities. The daily inspection logs will be attached to and submitted with the Daily Quality Control Reports or may be incorporated in the daily CQC report. Each entry shall include date, work area checked, employees present in work area, protective equipment and work equipment in use, special safety and health issues and notes, and signature of the preparer.

6.0 HIGHLIGHTED PROVISIONS: In addition to those items contained in EM 3851-1, Appendix A, include the following items in the accident prevention plan:

6.1 Hard Hat Area. A statement that the jobsite is classified a "hard hat" area from start to finish.

6.2 Sanitation and Medical Requirements Estimate the greatest number of employees, supervisors, etc., to be working at peak construction period, including subcontractor personnel. Include sanitation requirements and medical facilities identified for the job site. If a medical

facility or physician is not accessible within five minutes of an injury to a group of two or more employees for the treatment of injuries, identify at least two or more employees on each shift who are qualified to administer first aid and CPR.

6.3 Equipment Inspection The type of inspection program on cranes, trucks, and other types of construction equipment the Contractor plans to implement. Who will be responsible for the inspection and how the Contractor will control equipment of subcontractors and equipment bought to the site by rental companies. Types of records to be kept.

6.3.1 Copies of records of all equipment inspections will be kept at the job site for review by the designated authority.

6.4 Crane & Derrick Operators: Written proof of qualification for all crane and derrick operators in accordance with EM 385-1-1, 16.C.04. Qualification shall be by written (or oral) examination and practical operating examination unless the operator is licensed by a state or city licensing agency for the particular type of crane or derrick. Proof of qualification shall be provided by the qualifying source.

7.0 **ACCIDENT REPORTS**: The contractor shall immediately report all accidents by telephone to the COR.

7.1 The Contractor will provide an initial written report of the accident to the COR within 24 hours. The Contractor shall complete and submit ENG Form 3394 for all accidents involving lost work time, medical treatment, and/or property damage in excess of \$2000.00 within 48 hours of the accident. The report shall accurately represent the circumstances of the accident, cause of the accident, extent of medical treatment, extent of injuries and steps to prevent occurrence of similar accidents. The hazard analysis covering the work activity being undertaken during the accident shall be attached to the report.

7.2 Daily records of all first aid treatment not otherwise reportable shall be maintained at the job site and furnished to the designated authority upon request. Records shall also be maintained of all exposure and accident experience incidental to the work (OSHA Form 200 or equivalent as prescribed by 29 CFR 1904).

8.0 **MONTHLY EXPOSURE REPORTS**: The Contractor shall submit to the COR no later than the 1st day of each month, a compilation of manhours worked each month by the prime contractor and each subcontractor. In addition, the contractor shall report the number of accidents, severity, class of accidents, and lost time work days for each month.

9.0 **CLEAN-UP**: The Contractor's Accident Prevention Plan shall identify the individual's responsible for cleanup and shall establish a regular housekeeping procedure and schedule. If the COR determines that cleanup is not being performed satisfactorily, the Contractor shall establish a work crew to perform the continuous cleanup required by the contract clause titled: **CLEANING UP**: The number of individuals appointed to the cleanup work crew shall be increased as required in order to render adequate cleanup.

10.0 **FOCUS AREAS**: To supplement and emphasize the requirements of EM 3851-1, the following is provided and shall be mutually applicable.

10.1 Electrical Work: Electrical work shall not be performed on or near energized lines or equipment unless specified in the plans and specifications and approved by the COR. Plan and

layout of proposed temporary power to the construction site shall be submitted and approved by the COR before work will be permitted.

10.1.1 Upon request by the Contractor, arrangements will be made for deenergizing lines and equipment so that work may be performed. All outages shall be requested through the COR a minimum of 14 days, unless otherwise specified, prior to the beginning of the specified outages. Dates and duration will be specified.

10.2 If approved by the COR, the following work may be performed with the lines energized using certified hotline equipment on lines above 600 volts, when the following conditions have been met:

- a. work below the conductors no closer than the clearance required in EM 3851-1 from the energized conductors.
- b. setting and connection of new pretrimmed poles in energized lines which do not replace an existing pole.
- c. setting and removing transformers or other equipment on poles.
- d. installation or removal of hot line connectors, jumpers, deadend insulators for temporary isolation, etc., which are accomplished with hot line equipment from an insulated bucket truck.

10.3 Energized Line Work Plan The Contractor shall submit a plan, in writing, describing his/her method of operation and the equipment to be used on energized lines. Proper certification from an approved source of the safe condition of all tools and equipment will be provided with the plan. The work will be planned and scheduled so that proper supervision is maintained. Emergency procedures, including communication, for disconnecting power in the event of an accident will be outlined in the plan. The Contractor will review his/her plan with the COR prior to being granted permission to perform the work.

10.4. No work on lines greater than 600 volts will be performed from the pole or without the use of an insulated bucket truck.

10.5 No work will be done on overbuilt lines while underbuilt lines are energized, except for temporary isolation and switching.

10.6 Electrical Tools and Cords: Hand held electrical tools shall be used only on circuits protected by ground fault circuit interrupters for protection of personnel. All general use extension cords shall be hard usage or extra hard usage as specified in Table 11-1 of EM 385-1-1. Damaged or repaired cords shall not be permitted.

10.8 Temporary Power: Temporary electrical distribution systems and devices shall be checked and found acceptable for polarity, ground continuity, and ground resistance before initial use and after modification. GFI outlets shall be installed and tested with a GFI circuit tester (tripping device) prior to use. Portable and vehicle mounted generators shall be inspected for compliance with EM 385-1-1 and NFPA 70. All electrical equipment located outdoors or in wet locations shall be enclosed in weatherproof enclosures in accordance with EM 3851-1. Records of all tests and inspections will be kept by the contractor and made available on site for review by the designated authority. Submit sketch of proposed temporary power for acceptance.

10.9 Rollover Protective Structures (ROPS): Seat belts and ROPS shall be installed on all construction equipment as required by paragraph 16.B.12 of EM 385-1-1. The operating authority will furnish proof from the manufacturer or licensed engineer that ROPS meets the applicable SAE standards cited in EM 385-1-1, pg. 257.

10.10 Radiation Permits or Authorizations Contractors contemplating the use of a licensed or DOD regulated radiological device or radioactive material on a DOD installation will secure appropriate permit or authorization from the Department of Army or Department of the Air Force, as applicable. A 45-day lead-time should be programmed for obtaining the necessary authorization or permit. When requested, the COR will assist the Contractor in obtaining the required permit or authorization.

10.10.1 The Contractor shall develop and implement a radiation safety program to comply with EM 385-1-1, Section 06.E. Provisions for leak tests, authorized personnel, transport certificates, etc. will be addressed in the radiation safety program.

10.11 Elevating Work Platforms All elevating work platforms shall be designed, constructed, maintained, used, and operated in accordance with ANSI A92.3, ANSI A92.6, ANSI A92.5 and EM 385-1-1, Sections 22.J and 16.A.

10.11.1 Only personnel trained in the use of elevating work platforms shall be authorized to use them. A list of authorized users will be maintained by the contractor at the job site. The list will be updated to remain current and made available for review on site by the designated authority. Personnel safety belts must be worn.

10.12 Fall Protection: Fall protection in the form of standard guardrails, nets, or personal fall arrest systems will be provided for all work conducted over 6 feet in height. The contractor will submit his/her proposed method of fall protection to the COR as part of the Job Hazard Analysis for acceptance. If the contractor deems that conventional fall protection as described above is not feasible, or creates a greater hazard, the Contractor will prepare a written fall protection plan in accordance with OSHA 29 CFR 1926.502(k). The plan will demonstrate the reasons that conventional fall protection is unfeasible or constitutes a greater hazard and will provide alternative safety measures for review and acceptance by the COR.

10.13 Excavations: All open excavations made in the earth's surface four (4) foot or greater will be under the supervision of a competent person trained in, and knowledgeable about, soils analysis, the use of protective systems, and the requirements of OSHA 29 CFR 1926, Subpart P and EM 385-1-1, Section 25. The competent person shall be designated in writing by the Contractor and a resume of their training and experience submitted to the COR for acceptance.

10.13.1 Excavations hazards and methods for their control will be specified in the job hazard analysis.

10.13.2 Sloping and benching: The design of sloping and benching shall be selected from and in accordance with written tabulated data, such as charts and tables. At least one copy of the tabulated data will be maintained at the job site.

10.13.3 Support Systems: shall be in accordance with one of the systems outlined in a through c below:

- a. Designs drawn from manufacturer's specifications and in accordance with all specifications, limitations, and recommendations issued or made by the manufacturer. A copy of the manufacturer's specifications, recommendations, and limitations will be in written form and maintained at the job site.
- b. Designs selected from and in accordance with tabulated data (such as tables and charts). At least one copy of the design shall be maintained at the job site during excavation.
- c. Designed by a registered engineer. At least one copy of the design shall be maintained at the job site during excavation.

10.13.4 Excavations Greater than 20 Feet in Height: Sloping and benching or support systems shall be designed by a registered professional engineer. Designs shall be in writing and at least one copy of the design shall be maintained at the job site during excavation. The contractor will ensure that the registered professional engineer is working within a discipline applicable to the excavation work; i.e. it would be inappropriate for an electrical engineer to approve shoring designed for an excavation.

10.14 Confined Space: Entry into and work in a confined space will not be allowed when oxygen readings are less than 19.5% or greater than 23.5% or if the lower explosive limit (LEL) reading is greater than 10%, unless these conditions are adequately addressed in the confined space entry plan. In addition, action levels for toxic atmospheres shall be determined and any other known or potential hazards eliminated prior to entry.

11.0 **LANGUAGE**: For each group that has employees that do not speak English, the Contractor will provide a bilingual foreman that is fluent in the language of the workers. The contractor will implement the requirements of EM 3851-1, 01.B through these foremen.

12.0 **CONTRACTOR SAFETY MEETINGS AND DOCUMENTATION**: Contractor shall conduct and document safety meetings among its personnel as required by EM 3851-1 and as indicated herein. Monthly meetings shall be held among all supervisors, and weekly meetings shall be conducted by supervisors or foreman for all workers. The agenda of the meeting shall include specific safety items pertinent to work being performed. Documentation shall include a summary of items discussed as well as other items required by the EM 3851-1. Documentation shall be submitted to the Government monthly.

13.0 **COORDINATION WITH OTHER SPECIFICATION SECTIONS**: The requirements of this section are meant to supplement requirements of other sections. In cases of discrepancies the most stringent requirements shall apply. Other safety-related requirements can be found in the following specification sections:

- a. Specification Section 00800, Special Contract Requirements
- b. Specification Section 00700, Contract Clauses, paragraph entitled "accident Prevention"
- c. Specification Section entitled "Contractor Quality Control"
- d. Other specifications or contract requirements relating to site safety or health requirement or medical monitoring.

14.0 **CONTRACTOR PERFORMANCE APPRAISAL**: The occurrence of accidents and near misses due to negligence are strong indications that there has been insufficient emphasis on effective implementation and/or commitment to the accident prevention program. Should it

become obvious that only lip service is being given to this program, an interim unsatisfactory performance appraisal rating will be issued. If safety continues to be unsatisfactory or marginal, the unsatisfactory rating will become final. The contractor should be aware that this appraisal will be stored in a national computer database which can be accessed by a multitude of agencies or municipalities desiring information on prospective contractors. An unsatisfactory rating in this database may affect the contractor's ability to obtain future Government work.

-end-

SECTION 01451

CONTRACTOR QUALITY CONTROL

(NYD EDITION 12/99)

PART 1 GENERAL

1.1 REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to in the text by basic designation only.

AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM)

ASTM D 3740 (1996) Evaluation of Agencies Engaged in the Testing and/or Inspection of Soil and Rock as Used in Engineering Design and Construction

ASTM E 329 (1995b) Agencies Engaged in the Testing and/or Inspection of Materials Used in Construction

1.2 PAYMENT

Separate payment will not be made for providing and maintaining an effective Quality Control program, and all costs associated therewith shall be included in the applicable unit prices or lump-sum prices contained in the Bidding Schedule.

PART 2 PRODUCTS (Not Applicable)

PART 3 EXECUTION

3.1 GENERAL

The Contractor is responsible for quality control and shall establish and maintain an effective quality control system in compliance with the Contract Clause entitled "Inspection of Construction." The quality control system shall consist of plans, procedures, and organization necessary to produce an end product which complies with the contract requirements. The system shall cover all construction operations, both onsite and off site, and shall be keyed to the proposed construction sequence. For purposes of this section the term "construction" shall include all items of work, activities, materials and equipment as indicated in the contract documents. Other sections of the contract documents may also require separate, specially qualified individuals in such areas as chemical data acquisition, sampling and analysis, medical monitoring, industrial hygiene, safety officer, etc. The CQC organization will coordinate the activities of these individuals. The project superintendent will be held responsible for the quality of work on the job and is subject to removal by the Contracting Officer for non-compliance with quality requirements specified in the contract. The project superintendent in this context shall mean the on-site individual with the responsibility for the overall management of the project including logistics and production.

3.2 QUALITY CONTROL PLAN

3.2.1 General

The Contractor shall furnish for review by the Government, not later than 90 days after receipt of notice to proceed, the Contractor Quality Control (CQC) Plan proposed to implement the requirements of the Contract Clause entitled "Inspection of Construction." The plan shall identify personnel, procedures, control, instructions, test, records, and forms to be used. The Government will consider an interim plan

for the first 90 days of operation. Construction will be permitted to begin only after acceptance of the CQC Plan or acceptance of an interim plan applicable to the particular feature of work to be started. Work outside of the features of work included in an accepted interim plan will not be permitted to begin until acceptance of a CQC Plan or another interim plan containing the additional features of work to be started.

3.2.2 Content of the CQC Plan

The CQC Plan shall include, as a minimum, the following to cover all construction operations, both onsite and off site, including work by subcontractors, fabricator, suppliers, and purchasing agents:

a. A description of the quality control organization, including a chart showing lines of authority and acknowledgment that the CQC staff shall implement the three phase control system for all aspects of the work specified. The staff shall include a CQC System Manager who shall report to an officer in the Contractor's organization above the Project Superintendent, who is responsible for both quality and production.

b. The name, qualifications (in resume format), duties, responsibilities, and authorities of each person assigned a CQC function. Clear indication that CQC System Manager will have no duties other than Quality Control.

c. A copy of the letter to the CQC System Manager signed by an authorized official of the firm which describes the responsibilities and delegates sufficient authorities to adequately perform the functions of the CQC System Manager, including authority to stop work which is not in compliance with the contract. The CQC System Manager shall issue letters of direction to all other various quality control representatives outlining duties, authorities, and responsibilities. Copies of these letters will also be furnished to the Government.

d. Procedures for scheduling, reviewing, certifying, and managing submittals, including those of subcontractors, off site fabricators, suppliers, and purchasing agents. These procedures shall be in accordance with Section 01330 SUBMITTAL PROCEDURES.

e. Control, verification, and acceptance testing procedures for each specific test to include the test name, specification paragraph requiring test, feature of work to be tested, test frequency, and person responsible for each test. (Laboratory facilities will be approved by the Contracting Officer.) The Contractor shall incorporate all tests required by the contract (including systems commissioning and operating tests) to derive the above list of testing information which shall be presented in matrix form as part of the CQC Plan. This matrix shall be suitable for use by the Contractor and the Government as a checklist to control testing to be done on the contract. Coordinate any additional test submission or plan requirements for Mechanical and Electrical Systems with appropriate specialized specification section if applicable.

f. Procedures for tracking preparatory, initial, and follow-up control phases and control, verification, and acceptance tests including documentation. Provide matrix of Preparatory and Initial Inspections including specification reference paragraph, the name of the Definable Feature of Work, and spaces for date performed, results, and names of attendees.

g. Procedures for tracking construction deficiencies from identification through acceptable corrective action. These procedures will establish verification that identified deficiencies have been corrected.

h. Reporting procedures, including proposed reporting formats.

i. A list of the definable features of work. A definable feature of work is a task which is separate and distinct from other tasks and has separate control requirements. It could be identified by different trades or disciplines, or it could be work by the same trade in a different environment. Although each section of the specifications may generally be considered as a definable feature of work, there is frequently more than one definable feature under a particular section. This list will cover all features of work on the project, and will be agreed upon during the coordination meeting.

j. A brief explanation of the duties of the CQC organization with respect

to safety. Note that separate Accident Prevention Plan and Hazards Analysis is required for submission and acceptance.

k. Contractor's plan for training all CQC personnel in the CQC System.

3.2.3 Acceptance of Plan

Acceptance of the Contractor's plan is required prior to the start of construction. Acceptance is conditional and will be predicated on satisfactory performance during the construction. The Government reserves the right to require the Contractor to make changes in his CQC Plan and operations including removal of personnel, as necessary, to obtain the quality specified.

3.2.4 Notification of Changes

After acceptance of the CQC Plan, the Contractor shall notify the Contracting Officer in writing of any proposed change. Proposed changes are subject to acceptance by the Contracting Officer.

3.3 COORDINATION MEETING

After the Pre-construction Conference, before start of construction, and prior to acceptance by the Government of the CQC Plan, the Contractor shall meet with the Contracting Officer or Authorized Representative and discuss the Contractor's quality control system. The CQC Plan shall be submitted for review a minimum of 14 calendar days prior to the Coordination Meeting. The initial plan submitted must be found acceptable by the Government before the Coordination Meeting can be held. During the meeting, a mutual understanding of the system details shall be developed, including the forms for recording the CQC operations, control activities, testing, administration of the system for both onsite and off site work, and the interrelationship of Contractor's Management and control with the Government's Quality Assurance. Minutes of the meeting shall be prepared by the Government and signed by both the Contractor and the Contracting Officer. The minutes shall become a part of the contract file. There may be occasions when subsequent conferences will be called by either party to reconfirm mutual understandings and/or address deficiencies in the CQC system or procedures which may require corrective action by the Contractor.

3.4 QUALITY CONTROL ORGANIZATION

3.4.1 General

The requirements for the CQC organization are a CQC System Manager and sufficient number of additional qualified personnel to ensure contract compliance. The number of CQC personnel shall be increased as required during times of high construction workload. The Contractor shall provide a CQC organization which shall be at the site at all times during progress of the work and with complete authority to take any action necessary to ensure compliance with the contract. All CQC staff members shall be subject to acceptance by the Contracting Officer.

3.4.2 CQC System Manager

The Contractor shall identify as CQC System Manager an individual within his organization at the site of the work who shall be responsible for overall management of CQC and have the authority to act in all CQC matters for the Contractor. The CQC System Manager shall be a graduate engineer, graduate architect, or a graduate of construction management, or shall hold a state Professional Engineer's license, with a minimum of 2 years construction experience on construction similar to this contract, one year of which as a Quality Control Representative. The CQC Manager may also be a construction person with a minimum of 4 years in related work, one year of which as a QC Representative. This CQC System Manager shall be on the site at all times during construction and will be employed by the prime Contractor. An alternate for the CQC System Manager will be identified in the plan to serve in the event of the System Manager's absence. The requirements for the alternate will be the same as for the designated CQC System Manager. The CQC System Manager shall be assigned no duties other than Quality Control.

3.4.3 Organizational Expertise

The CQC organization, which includes the CQC System Manager and additional qualified personnel, must as a minimum possess general corporate technical knowledge of all aspects of the project, and must successfully execute the CQC System on all aspects of the project. Individuals possessing experience in specialized areas shall be added to the organization as required during periods when such specialty areas are being executed. Examples of such specialized areas would include HVAC, electrical distribution and substations, roofing, tele-communication systems, fire protection and alarm systems, computer installations, specialized welding, specialized finishes, precast concrete installation, modular housing, specialized geotech work, dredging, sand placement and surveying, chemical data acquisition, hazardous material removal and disposal, medical monitoring, etc., depending on the nature of the particular project. The Contractor must demonstrate that such additional qualified personnel have received sufficient training and indoctrination into the CQC system, and that these personnel properly execute the requirements of the CQC System within their areas of expertise.

3.4.4 Additional Requirement

In addition to the above experience and education requirements the CQC System Manager shall have completed within the last five years the course entitled "Construction Quality Management for Contractors". This course is given at a cost of \$25 by Government personnel and is of two-day duration. The Government will provide one instruction manual for the course.

3.4.5 Organizational Changes

The Contractor shall maintain the CQC Organization at full strength at all times. When it is necessary to make changes to the organization, the Contractor shall revise the CQC Plan to reflect the changes and submit the changes to the Contracting Officer for acceptance.

3.5 SUBMITTALS

Submittals shall be made as specified in Section 01330 SUBMITTAL PROCEDURES. The CQC organization shall be responsible for certifying that all submittals are in compliance with the contract requirements and are submitted in accordance with the date on the submittal register. CQC personnel shall also make physical checks of materials and equipment before installation to insure compliance with approved shop drawings.

3.6 CONTROL

Contractor Quality Control is the means by which the Contractor ensures that the construction, to include that of subcontractors and suppliers, complies with the requirements of the contract. At least three phases of control shall be conducted by the CQC System Manager for each definable feature of work as follows:

3.6.1 Preparatory Phase

This phase shall be performed prior to beginning work on each definable feature of work after all required plans/documents/materials are approved/accepted, and after copies are at the worksite, and shall include:

- a. A review of each paragraph of applicable specifications.
- b. A review of the contract drawings.
- c. A check to assure that all materials and/or equipment have been tested, submitted, and approved.
- d. Review of provisions that have been made to provide required control inspection and testing.

e. Examination of the work area to assure that all required preliminary work has been completed and is in compliance with the contract.

f. A physical examination of required materials, equipment, and sample work to assure that they are on hand, conform to approved shop drawings or submitted data, and are properly stored.

g. A review of the appropriate activity hazard analysis to assure safety requirements are met per EM 385-1-1, "Safety and Health Requirements Manual".

h. Discussion of procedures for controlling quality of the work including repetitive deficiencies. Document construction tolerances and workmanship standards for that feature of work.

i. A check to ensure that the portion of the plan for the work to be performed has been accepted by the Contracting Officer.

j. Discussion of the initial control phase.

k. The Government shall be notified at least 48 hours in advance of beginning the preparatory control phase meeting. This phase shall include a meeting conducted by the CQC System Manager and attended by the superintendent, other CQC personnel (as applicable), and the foreman responsible for the definable feature. The results of the preparatory phase actions shall be documented by separate minutes prepared by the CQC System Manager and attached to the daily CQC report. The Contractor shall clearly indicate its intent and plan for communication of the results of the preparatory phase to applicable workers, to include materials, construction methods, workmanship standards, safety considerations and procedures, and preparatory phase meeting minutes.

3.6.2 Initial Phase

This phase shall be accomplished at the beginning of a definable feature of work (DFW) when the accomplishment of a representative sample of the work is impending.

The following shall be accomplished:

a. A check of the portion of work done to ensure that it is in full compliance with contract requirements. Review minutes of the preparatory meeting.

b. Verify adequacy of controls to ensure full contract compliance. Verify required control inspection and testing.

c. Establish level of workmanship and verify that it meets minimum acceptable workmanship standards. Compare with required sample panels as appropriate.

d. Resolve all differences.

e. Check safety to include compliance with and upgrading of the safety plan and activity hazard analysis. Review the activity analysis with each worker.

f. The Government shall be notified at least 48 hours in advance of beginning the initial phase meeting. This phase shall include a meeting conducted by the CQC System Manager and attended by the superintendent, other CQC personnel (as applicable), the foreman responsible for the definable feature and the work crew(s) for the appropriate DFW. Separate minutes of this phase shall be prepared by the CQC System Manager and attached to the daily CQC report. Exact location (i.e. CQC Report number) of initial phase shall be indicated for future reference and comparison with follow-up phases.

3.6.3 Follow-up Phase

Daily checks shall be performed to assure control activities, including control testing, are providing continued compliance with contract requirements, until completion of the particular feature of work. The checks shall be made a matter of record in the CQC documentation. Final follow-up checks shall be conducted and all deficiencies corrected prior to the start of additional features of work which

may be affected by the deficient work. The Contractor shall not build upon or conceal non-conforming work.

3.6.4 Additional Preparatory and Initial Phases

Additional preparatory and initial phases shall be conducted on the same definable feature of work if the quality of on-going work is unacceptable, if there are changes in the applicable CQC staff, onsite production supervision or work crew, if work on a definable feature is resumed after a substantial period of inactivity, or if other problems develop.

3.6.5 Definable Feature of Work: Definition and Discussion

A Definable Feature of Work (DFW) is a portion of work consisting of materials, equipment, supplies and procedures which are closely related to each other, have the same control and will be accomplished by the same work crew to completion. A DFW must be sufficiently small so that control of the work (i.e. communication of requirements to workers, inspection of materials and workmanship and correction of deficiencies) will be easily accomplished. Some examples for various types of projects are:

- * Rough-in of electrical boxes and wiring methods
- * Lighting fixtures, receptacles, and accessories
- * Panelboards, circuit breakers and motors.
- * Water supply piping, fittings and supports
- * DWV piping, fittings and supports for plumbing
- * Concrete reinforcement and formwork
- * Concrete mixing, placement, curing and finishing
- * Testing Procedure for contaminated soil, materials and storage tank contents
- * Storage Tank disassembly and removal
- * Setting up of decontamination area, exclusion zones and standard safety procedures for asbestos removal
- * Asbestos removal and disposal procedures
- * Chemical Data Acquisition
- * Preparation, removal and disposal of contaminated material
- * Dredging and placement.

3.7 TESTS

3.7.1 Testing Procedure

The Contractor shall perform specified or required tests to verify that control measures are adequate to provide a product which conforms to contract requirements. Upon request, the Contractor shall furnish to the Government duplicate samples of test specimens for possible testing by the Government. Testing includes operation and/or acceptance tests when specified. The Contractor shall procure the services of a laboratory which has been assurance inspected by the Corps of Engineers within the last two years. The Contractor shall perform the following activities and record and provide the following data:

- a. Verify that testing procedures comply with contract requirements.
- b. Verify that facilities and testing equipment are available and comply with testing standards.
- c. Check test instrument calibration data against certified standards.
- d. Verify that recording forms and test identification control number system, including all of the test documentation requirements, have been prepared.
- e. Results of all tests taken, both passing and failing tests, will be recorded on the CQC report for the date taken. Specification paragraph reference, location where tests were taken, and the sequential control number identifying the test will be given. If approved by the Contracting Officer, actual test reports may be submitted later with a reference to the test number and date taken. An information copy of tests performed by an off site or commercial test facility will be provided directly to the Contracting Officer. Failure to submit timely test reports as stated may result in nonpayment for related work performed and disapproval of the test facility for this contract.

3.7.2 Testing Laboratories

3.7.2.1 Capability Check

The Government reserves the right to check laboratory equipment and calibration in the proposed laboratory for compliance with the standards set forth in the contract specifications and to check the laboratory technician's testing procedures and techniques. Laboratories utilized for testing soils, concrete, asphalt, aggregate and steel shall meet criteria detailed in ASTM D 3740 and ASTM E 329. The Government requires a Corps of Engineers capability check of the laboratory which the contractor proposes to perform tests on soils, concrete, asphalt, aggregate and steel. If the laboratory proposed has not had the required Corps of Engineers capability check within the last two years, it will be performed by the Corps of Engineers at a cost of \$7200 to the contractor. This cost will be paid by the Contractor via check directly to the Corps of Engineers Laboratory performing the inspection and report.

3.7.2.2 Capability Recheck

If the selected laboratory fails the capability check, the Contractor will be assessed a charge of \$7200 to reimburse the Government for each succeeding recheck of the laboratory or the checking of a subsequently selected laboratory.

3.7.3 On-Site Laboratory

The Government reserves the right to utilize the Contractor's control testing laboratory and equipment to make assurance tests and to check the Contractor's testing procedures, techniques, and test results at no additional cost to the Government.

3.7.4 Furnishing or Transportation of Samples for Testing

Costs incidental to the transportation of samples or materials will be borne by the Contractor. Samples of materials for test verification and acceptance testing by the Government shall be delivered to the Corps of Engineers Division Laboratory, as designated by the Government Representative. Coordination for each specific test, exact delivery location and dates will be made through the Area Office.

3.8 COMPLETION INSPECTION

3.8.1 Punch-Out Inspection

Near the completion of all work or any increment thereof established by a completion time stated in the Special Clause entitled "Commencement, Prosecution, and Completion of Work," or stated elsewhere in the specifications, the CQC System Manager shall conduct an inspection of the work and develop a "punch list" of items which do not conform to the approved drawings and specifications. Such a list of deficiencies shall be included in the CQC documentation, as required by paragraph DOCUMENTATION below, and shall include the estimated date by which the deficiencies will be

corrected. The CQC System Manager or staff shall make a second inspection to ascertain that all deficiencies have been corrected. Once this is accomplished the Contractor shall notify the Government that the facility is ready for the Government's "Pre-final" inspection.

3.8.2 Pre-Final Inspection

The Government will perform this inspection to verify that the facility is ready to be occupied. A Government "Pre-final Punch List" will be developed as a result of this inspection. The Contractor's CQC System Manager shall ensure that all items on this list have been corrected and so notify the Government so that a "Final" inspection with the customer can be scheduled. Any items noted on the "Pre-final" inspection shall be corrected in a timely manner. These inspections and any deficiency corrections required by this paragraph will be accomplished within the time slated for completion of the entire work or any particular increment thereof if the project is divided into increments by separate completion dates.

3.8.3 Final Acceptance Inspection

The Contractor's Quality Control Inspection personnel, plus the superintendent or other primary management person and the Contracting Officer's Representative will be in attendance at this inspection. Additional Government personnel including, but not limited to, those from Base/Post Civil Facility Engineer user groups, and major commands may also be in attendance. The final acceptance inspection will be formally scheduled by the Contracting Officer based upon results of the Pre-Final Inspection. Notice will be given to the Contracting Officer at least 14 days prior to the final acceptance inspection and shall include the Contractor's assurance that all specific items previously identified to the Contractor as being acceptable, along with all remaining work performed under the contract, will be complete and acceptable by the date scheduled for the final acceptance inspection. Failure of the Contractor to have all contract work acceptably complete for this inspection will be cause for the Contracting Officer to bill the Contractor for the Government's additional inspection cost in accordance with the contract clause entitled "Inspection of Construction".

3.9 DOCUMENTATION

The Contractor shall maintain current records providing factual evidence that required quality control activities and/or tests have been performed. These records shall include the work of subcontractors and suppliers and shall be on an acceptable form that includes, as a minimum, the following information:

- a. Contractor/subcontractor and their area of responsibility.
- b. Operating plant/equipment with hours worked, idle, or down for repair.
- c. Work performed each day, giving location, description, and by whom. When Network Analysis (NAS) is used, identify each phase of work performed each day by NAS activity number.
- d. Test and/or control activities performed with results and references to specifications/drawings requirements. The control phase should be identified (Preparatory, Initial, Follow-up). List deficiencies noted along with corrective action.
- e. Quantity of materials received at the site with statement as to acceptability, storage, and reference to specifications/drawings requirements.
- f. Submittals reviewed, with contract reference, by whom, and action taken.
- g. Off-site surveillance activities, including actions taken.
- h. Job safety evaluations stating what was checked, results, and instructions or corrective actions.
- i. Instructions given/received and conflicts in plans and/or specifications.
- j. Contractor's verification statement.

These records shall indicate a description of trades working on the project; the number of personnel working; weather conditions encountered; and any delays encountered. "N/A" shall be entered into any field for which no entry is intended. These records shall cover both conforming and deficient features and shall include a statement that equipment and materials incorporated in the work and workmanship comply with the contract. The original and one copy of these records in report form shall be furnished to the Government daily within 16 hours after the date(s) covered by the report, except that reports need not be submitted for days on which no work is performed. As a minimum, one report shall be prepared and submitted for every seven days of no work and on the last day of a no work period. All calendar days shall be accounted for throughout the life of the contract. The first report following a day of no work shall be for that day only. Reports shall be signed and dated by the CQC System Manager. The report from the CQC System Manager shall include copies of test reports and copies of reports prepared by all subordinate quality control personnel. All documentation is expected to be literate, legible and complete.

3.10 SAMPLE FORMS

(Note: If the Resident Management System (RMS) is required to be used by the contractor for the QC System as indicated elsewhere in this contract, Contractor will generate all reports in the RMS System, and attached forms will serve as guidance only. Otherwise forms contained herein will be used by the by CQC Staff for CQC System reporting).

a. The 2-page form at the end of the section will be used for the basic CQC Report. CQC personnel shall attach continuation sheets as required for any entries which cannot fit on the basic form. Preparatory and Initial Inspections, when performed, shall be indicated on the basic CQC report and minutes for each inspection shall be attached. Minutes will consist of a list of specific requirements for materials, procedures or equipment to be employed and shall also include any understandings reached or items of special importance discussed.

b. In addition, outstanding deficiencies shall be listed on the form "List of Outstanding Deficiencies" at the end of this section and shall be attached to each CQC report. As deficiencies are corrected, they are to be acknowledged on the basic CQC report and shall be deleted from the list.

c. Form at the end of this section entitled "CQC Test Report List" shall be used by the Contractor to track testing to be done as the project progresses, and also to summarize the Contractor's Quality Control testing to be reported on the CQC Plan.

d. Form "Record of Preparatory and Initial Inspections" at the end of this section shall be used by the Contractor to track Preparatory and Initial inspections as the project progresses and also to summarize these required inspections as part of the CQC Plan.

e. Additional reporting forms pertaining to specialized activities may be included herein or elsewhere in the contract, and shall be used for reporting as indicated.

3.11 NOTIFICATION OF NONCOMPLIANCE

The Contracting Officer will notify the Contractor of any detected noncompliance with the foregoing requirements. The Contractor shall take immediate corrective action after receipt of such notice. Such notice, when delivered to the Contractor at the work site, shall be deemed sufficient for the purpose of notification. If the Contractor fails or refuses to comply promptly, the Contracting Officer may issue an order stopping all or part of the work until satisfactory corrective action has been taken. No part of the time lost due to such stop orders shall be made the subject of claim for extension of time or for excess costs or damages by the Contractor. Deficiencies cited and verbal instructions given to the Contractor by the Government Representative shall be entered into that day's CQC Report.

(FORMS FOLLOW)

-- End of Section --

SECTION 03250

FIBER REINFORCED POLYMER (FRP) COMPOSITE MATERIAL

PART 1 GENERAL

1.1 REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to in the text by basic designation only.

AMERICAN CONFERENCE OF GOVERNMENT INDUSTRIAL HIGIENISTS (ACGIH)

Publication 0028 (1998) TLVs and BEIs

AMERICAN CONCRETE INSTITUTE (ACI)

ACI 440R-96 (1996) State-of-the-art Report on Fiber Reinforced Plastic Reinforcement for Concrete Structures

ACI 515.1R (1985) A Guide to the Use of Waterproofing, Dampproofing, Protective, and Decorative Barrier Systems for Concrete.

AMERICAN NATIONAL STANDARDS INSTITUTE (ANSI)

Z-129.1 (1988) Hazardous Industrial Chemicals Precautionary Labeling

AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM).

ASTM D 224 (1997) Standard Test Method for Rubber Property - Durometer Hardness

ASTM D696 (1998) Standard Test Method for Coefficient of Linear Thermal Expansion of Plastics Between -30 C and 30 C

ASTM D 2563 (1994) Practice for Classifying Visual Defects in Glass-Reinforced Plastic Laminate Parts

ASTM D 3039 (1995a) Test Method for Tensile Properties of Matrix Composites

ASTM D3163 (1996) Test Method for Determining Strength of Adhesively Bonded Rigid Plastic Lap-Shear Joints in Shear by Tension Loading

ASTM D 3171 (1990) Standard Test Method for Fiber Content of Resin-Matrix Composites by Matrix Digestion

ASTM D3418	(1997) Standard Test Method for Transition Temperatures of Polymers By Thermal Analysis
ASTM D 4258	(1999) Standard Practice for Surface Cleaning Concrete for Coating
ASTM D4541	(1995) Standard Test Method for Pull off Strength of Coatings using Portable Adhesion Tester.
ASTM E 84	(1995) Standard Test Method for Surface Burning Characteristics of Building Materials
ASTM E 119	(1995) Standard Test Methods for Fire Tests of Building Construction and Materials
CODE OF FEDERAL REGULATIONS (CFR)	
16, Part 1500	(1997) Hazardous Substances and Articles; Administration and Enforcement Regulations
49, Chapter C	(1997) Transportation
INTERNATIONAL CONFERENCE OF BUILDING OFFICIALS EVALUATION SERVICE, INC. (ICBO ES)	
ICBO ES AC10	(1997) Acceptance Criteria for Quality Control Manuals
ICBO ES AC125	(1997) Acceptance Criteria for concrete and Reinforced and Unreinforced Masonry Strengthening Using Fiber-Reinforced, Composite System
INTERNATIONAL CONCRETE REPAIR INSTITUTE	
Guideline No. 03732	(1996) Selecting and Specifying Concrete Surface Preparation for Sealers, Coatings, and Polymer Overlays
Guideline No. 03730	(1995) Guide for Surface Preparation for the Repair of Deteriorated Concrete Resulting from Reinforcing Steel Corrosion
INTELLIGENT SENSING FOR INNOVATIVE STRUCTURES (ISIS) CANADA	
	(1998) Standard Test Methods for FRP Rod and Sheet
STEEL STRUCTURES PAINTING COUNCIL (SSPC)	
SP 6	(1994) Commercial Blast Cleaning
SP 11	(1995) Power Tool Cleaning to Bare Metal
UNIFORM BUILDING CODE (UBC)	
Section 1701	(1997) Special Inspections

1.2 SYSTEM DESCRIPTION

1.2.1 Design Requirements

The FRP composite system shall provide structural strengthening of reinforced concrete (RC) structural members. It is important to insure that all components of a structure are capable of withstanding the increased loads associated with the strengthened members. Additionally, the FRP contribution to the flexural capacity of a strengthened section should be investigated in order to maintain ductile behavior by insuring that shear does not control failure.

1.2.2 Performance Requirements

The FRP composite system shall provide strengthening of reinforced concrete members for flexure and shear and providing additional confinement as necessary. The system shall transfer loading in concert with the existing reinforcing bars.

1.3 SUBMITTALS

Government approval is required for submittals with a "GA" designation; submittals having an "FIO" designation are for information only. The following shall be submitted in accordance with SECTION 01330 SUBMITTAL PROCEDURES:

SD-01 Preconstruction Submittals

QA/QC Plan; GA

A quality assurance plan for the installation and curing of all FRP materials to include personnel safety issues, installer certification, application and inspection of the FRP system, location and placement of splices, curing provisions, means to assure dry surfaces, quality assurance samples and cleanup. The plan will indicate the testing that will be performed and identify the party or parties responsible for this testing.

SD-02 Shop Drawings

The Composite System; GA

Complete shop drawings shall be submitted for each installation of the composite system. The shop drawings shall contain details of the fiber architecture, number and thickness of layers, joint and end details and locations to be applied as per Part 3 of this specification. Include any calculations prepared by or on behalf of the Contractor to determine the layout of the FRP materials to be installed.]

SD-03 Product Data

Manufacturer's product data sheets indicating physical, mechanical, and chemical characteristics of all materials used in the FRP system.

Tensile properties of the composite material as determined by tensile testing in accordance with ASTM D 3039. Design elastic modulus shall be determined by the

strength and rupture strain values. Ultimate tensile strength and rupture strain values shall be determined by subtracting three (3) standard deviations from the average values of twenty (20) or more tensile tests.

Material Safety Data Sheets (MSDS) for all materials to be used at the job site in accordance with OSHA and 29 CFR 1926.59.

SD-04 Samples

Fiber reinforcing; GA.

12-in x 12-in swatch samples of each E-Glass fabric type used

Tyfo® BC 240

Tyfo® SEH51

Anchors; GA

Two of each type used;

3/8" diameter E-Glass; and

1¼" diameter E-Glass/Carbon 50%/50% blend anchors:

Tyfo® FibrAnchors®

Tyfo® SuprAnchor

Epoxy materials; GA.

Tyfo® G saturant with grey pigmentation.

Tyfo® S primer epoxy

Tyfo® TC Tack Coat epoxy for Overhead installations.

Tyfo® WS thickened epoxy used as a primer/filler/detailing epoxy

FRP composite material; GA.

Samples of each system type used;

12-in x 12-in samples:

Tyfo® BC 240

Tyfo® SEH51

6" length for 3/8" dia anchors, 18" length for 1 ¼" dia anchors

Tyfo® FibrAnchors®

Tyfo® SuprAnchor

SD-05 Design Data - Not Applicable.

SD-06 Test Reports

Sampling and Testing; FIO.

System environmental durability test results conducted and reported by an independent testing facility. The report shall show the following information:

- a. FRP System nomenclature
- b. Testing facility name

- c. Testing facility address
- d. Testing facility telephone number
- e. Testing facility point of contact
- f. Freeze-thaw test results
- g. UV test results
- h. Fire resistance test results

Large scale structural testing results of the composite material on representative RC structurals similar to those described by this specification, conducted and reported by an independent testing facility. The report shall show the following information:

- a. FRP System nomenclature
- b. Testing facility name
- c. Testing facility address
- d. Testing facility telephone number
- e. Testing facility point of contact
- f. Substrate FRP system tested upon
- g. Test results in accordance with ICBO AC125.

SD-07 Certificates

Material and Section Properties; GA

Certification from the system manufacturer of the guaranteed material and section properties for the supplied material.

Volatile Organic Compound (VOC) Content; GA.

Resins proposed for use meet Federal VOC regulations and those of the local Air Pollution Control Districts having jurisdiction over the geographical area in which the project is located.

Applicator Certification; GA.

Certificates of training by the FRP system manufacturer for all FRP applicators.

SD-08 Manufacturer's Instructions

FRP Composite System; GA.

Submit the manufacturer's product information to include independent laboratory test data, structural test data for the type of application being considered and durability data representative of the anticipated environment. The data shall demonstrate the proposed FRP system meets all mechanical and physical design requirements including tensile strength, durability, resistance to creep, bond to substrate and glass transition temperature of the FRP system and its constituent materials. It shall also include the brand name, catalog numbers, and name(s) of manufacturers.

Mixing and Application; GA.

Detailed mixing and application instructions, minimum and maximum application temperature, and curing times between coats or layers and application instructions for surface coatings shall be provided.

Cold Weather Installation; GA.

Applicator construction procedures for installations when temperature conditions are less than the minimum application temperature.

Hot Weather Installation; GA

Applicator construction procedures for installations when temperature conditions are greater than the maximum application temperature.

Inclement weather installation; GA.

Applicator construction procedures for installations when inclement weather conditions arise during application.

Coatings; GA

Written manufacturer's instructions for application of top coating material.

SD-10 Operation and Maintenance Data

FRP maintenance and repair procedure; GA

Procedures to properly maintain the FRP system to be installed as well as written manufacturer recommended repair procedures for damage to the in-place FRP system.

1.4 QUALIFICATIONS

1.4.1 System Manufacturers

The FRP composite system is a sole source procurement. The manufacturer system is to be supplied by:

The FYFE Co. LLC
6310 Nancy Ridge Drive, Suite 103
San Diego, CA 92121-3209
Phone 858 642 0694
Fax 858 642 0947

1.4.2 Contractors

The Contractor for installation of the FPR composite system is a sole source procurement. The Contractor is to be supplied by:

The FYFE Co. LLC
6310 Nancy Ridge Drive, Suite 103
San Diego, CA 92121-3209
Phone 858 642 0694
Fax 858 642 0947

1.4.3 FRP Composite Applicators

1.4.3.1 The FRP composite applicators shall have completed, as a minimum, a certification course provided by the FRP manufacturer, which includes hands-on application of FRP systems to concrete substrates. A field representative who has completed the course of instruction and has completed a minimum of ten (10)

FRP composite strengthening projects of like process using the manufacturer's composite system shall be present on site during all installation of the FRP system.

1.4.3.2 Only qualified applicators meeting these requirements and those having prior experience in the specified surface preparation and coating applications shall be assigned to perform the work described herein.

1.4.3.3 Workers having access to the work area shall be informed of the contents of the applicable material safety data sheets (MSDS) and shall be informed of potential health and safety hazard and protective controls associated with materials used on the project. The work area is one that may receive mists and odors from the rehab application and curing operations. Workers involved in surface preparation, and clean up shall be trained in the safe handling and application, and the exposure limit, for each material that the worker will use in the project. Personnel having a need to use respirators and masks shall be instructed in the use and maintenance of such equipment.

1.5 REGULATORY REQUIREMENTS

The composite system used shall not release volatile organic compounds (VOC) into the air in excess of the most restrictive of NIOSH RELs, OSHA PELs or ACGIH TLVs for worker or occupant exposure during installation and/or over the useful life of the structure. If VOCs exceed any of these exposure limits during installation or use, additional ventilation shall be provided for the duration of the excess outgassing. At no time will they exceed STEL even if additional ventilation or air supply is provided. The contractor is responsible for providing the necessary equipment to comply with these requirements. Once cured, the FRP composite system shall not exhibit any detectable odor at a distance of one foot from the FRP surface.

1.6 FIELD EXAMPLES

1.6.1 The contractor shall provide the following:

1.6.1.1 A list of a minimum Twenty (20) completed FRP composite strengthening projects completed with the manufacturer's composite system. The list shall include at a minimum, the dates of work, type, description and amount of work performed, as well as a point of contact for an owner representative to include name, address and telephone number.

1.6.1.2 A list of a minimum of fifteen (15) completed FRP composite strengthening projects performed by the certified applicator with the manufacturer's composite system. The list shall include at minimum, the dates of work, type, description and amount of work performed, and the name and telephone number of a contact person at the agency or company for which the work was completed.

1.6.1.3 A list of a minimum of ten (10) completed FRP composite strengthening projects performed with the manufacturer's composite system by the applicator's key personnel who will perform the actual work. The list shall include at minimum, the dates of work, type, description and amount of work performed, and the name and telephone number of a contact person at the agency or company for which the work was completed.

1.7 PREINSTALLATION CONFERENCE

Prior to commencement of any work, the Contractor shall be responsible for arranging and conducting a meeting between the Contracting Officer, Contractor, and the Contracting Officer's Representative to discuss the project requirements. The Contractor shall review the requirements of the Specification and overall project requirements. All aspects of the project, including containment, environmental control, access, surface preparation, strengthening system application, visual quality of the in-place installation including smoothness and color match to adjacent existing surfaces, quality assurance, schedule requirements, and safety shall be reviewed and discussed. The Contractor shall request clarification of any ambiguities, and advise the Contracting Officer and the Contracting Officer's Representative of any potential conflicts and/or any technical requirements that appear improper or inappropriate.

1.8 DELIVERY, STORAGE, AND HANDLING

1.8.1 Polymer resin materials shall be delivered in original factory-sealed containers with the manufacturer's labels intact and legible with verification of product nomenclature, manufacturer's name, product identification and batch number, date of manufacture and shelf life or expiration date. Polymer resin materials that have exceeded the shelf life shall not be used.

1.8.2 All materials shall be stored in a covered, well-ventilated area and protected from exposure to any detrimental conditions including: airborne contaminants, dirt, dust, sunlight, temperatures lower than 40°F or greater than 100°F, rainfall, sparks or flame and in accordance with the manufacturer's requirements. Polymer resins shall be stored separately from their hardeners.

1.9 PROJECT/SITE CONDITIONS

1.9.1 Environmental Requirements

1.9.1.1 Primers, saturating resins and adhesives generally shall not be applied to cold or frozen surfaces. When the surface temperature of the concrete surface falls below a minimum level as specified by the FRP system manufacturer, the submitted cold weather installation procedures shall be used with the approval of by the Contracting Officer, otherwise work will cease until the air temperature and concrete temperature rise above the specified minimum.

1.9.1.2 When the surface temperature of the concrete and/or the air temperature rises above the maximum level as specified by the FRP system manufacturer, the submitted hot weather installation procedures shall be used with the approval of the Contracting Officer, otherwise work will cease until the air temperature and concrete temperature cool below the specified maximum.

1.9.1.3 Unless they have been formulated for such applications, resins and adhesives shall not be applied to damp or wet surfaces.

1.9.1.4 Concrete surfaces that are subject to vapor transmission shall not be completely covered by FRP systems.

1.9.2 Existing Conditions

As-built drawings of the structure can be accessed at the United States Military Academy, Office of Housing and Public Works, Building 667B, Ruger Road, West Point, New York 10996.

1.9.3 Work Coordination

Work shall be coordinated to minimize exposure of building occupants, other Contractor personnel, and visitors to mists and odors from preparation, FRP system application and clean-up operations.

1.10 WARRANTY

Manufacturer's standard warranty for FRP composite system installation shall be furnished. The warranty shall include the FRP composite system installation, bond to the substrate, and interlaminar bond, as well as mechanical property retention, and fabric - resin compatibility. The warranty shall run directly to the government and shall cover a period of not less than 15 years from the date of Government's acceptance.

PART 2 PRODUCTS

2.1 MATERIALS

The glass and glass-carbon hybrid reinforced wet lay up FRP composite system used shall comply with the requirements specified in submittals "SD-02 Shop Drawings". No substitution for materials from the materials system described in submittal "Test Reports SD-06" shall be used in the project.

2.2 MANUFACTURED PRODUCTS

All supplied materials shall be manufactured and supplied by the FYFE Co. LLC. Products:

E-Glass fabric

Tyfo® BC 240

Tyfo® SEH51

3/8" diameter E-Glass; and

1¼" diameter E-Glass/Carbon 48K TOW 50%/50% blend anchors:

Tyfo® FibrAnchors®

Tyfo® SuprAnchor

Epoxy materials:

Tyfo® G saturant with grey pigmentation.

Tyfo® S primer epoxy

Tyfo® TC Tack Coat epoxy for Overhead installations.

Tyfo® WS thickened epoxy used as a primer/filler/detailing epoxy

2.3 COMPONENTS

2.3.1 FRP Composite System

The wet lay up FRP system shall consist of glass and glass-carbon fiber in an epoxy resin.

2.3.2 The primer/filler used in "SD-06 Test Reports" shall be used for the protective seal coat and for filling voids. It shall consist of a thickened epoxy.

2.3.3 Final finish and coatings shall be performed to match existing adjacent surfaces including color match. All resin materials shall be color matched in accordance with manufacturers recommendations to achieve durable permanent final finish. The final finish topcoat shall be performed utilizing a latex paint color matched to adjacent surfaces, such final topcoat shall include application of latex paint to the entire extents of the abrasive blasted zone performed for surface preparation

2.4 ACCESSORIES

2.4.1 Anchors for the FRP system shall be installed as prescribed by the FRP system manufacturer and/or designated in "SD-02 Shop Drawings".

2.4.2 The contractor shall provide other materials as needed for the proper installation of the complete composite system as specified in conformance with these specifications.

2.5 MIXES

Mixing of Resins shall be done in accordance with the FRP system manufacturer's recommended procedure. All resin components shall be at a proper temperature and shall be mixed in the correct ratio until there is a complete mixing of components and a uniform color.

The amount of each batch of resin mixed shall be in quantities sufficiently small enough to ensure that all mixed resin can be used within the resin pot life. Mixed resin that exceeds its pot life as defined by the system manufacturer shall not be used.

PART 3 EXECUTION

3.1 EXAMINATION

3.1.1 Examine existing conditions to assess the quality of the concrete substrate, identify potential obstructions, and verify dimensions/geometries shown on shop drawings.

3.1.2 Should the potential for adverse temperatures, direct contact by rain, dust or dirt, excessive sunlight, high humidity, or vandalism occur during installation, temporary protection may be required until the resins have cured. The contractor shall provide and install tents and/or plastic screens as required to protect the FRP system as it cures. All resins shall be cured before removal of temporary shoring or allowing the structure to be exposed to new

loads. In the event of suspected damage to the FRP system during installation, the Contracting Officer's Representative shall be notified. Should the damage be caused by the contractor's negligence, the resulting repairs shall be done at no additional cost to the government.

3.2 PREPARATION

3.2.1 Materials Testing

3.2.1.1 Prior to starting the project, the Contractor and Special Inspector shall assure that delivered FRP materials meet the requirements of section 2 of this specification. This may require laboratory testing. Materials that do not meet the minimum requirements as specified by the Contracting Officer's Representative shall be rejected. In addition, the gel time, pot life, and curing hardness of the resin shall be determined.

3.2.2 Substrate repair

3.2.2.1 The areas to receive FRP composite is relatively sound structurally. All problems associated with the condition of the original concrete substrate that can compromise the integrity of the FRP system shall be addressed prior to surface preparation in accordance with ACI 546R and ICRI Guideline No. 03730. In addition, all concrete repairs shall meet the requirements of the FRP system manufacturer.

3.2.2.2 Externally bonded FRP systems shall not be applied to concrete substrates containing corroding reinforcing steel. Evidence of localized cracking and/or spalling or rust stains shall be noted and reported to the Contracting Officer's Representative. Work shall not proceed until the cause(s) of the corrosion is addressed and the corrosion-related deterioration repaired.

3.2.2.3 Cracks wider than 0.010 in. (0.3 mm) shall be pressure injected with epoxy in accordance with ACI 224.1R. Smaller cracks exposed to aggressive environments shall be resin injected or sealed to prevent corrosion of existing steel reinforcement.

3.2.3 Surface Preparation

3.2.3.1 Bond Critical Applications

3.2.3.1.1 Surface preparation for bond-critical applications shall be in accordance with recommendations of ACI 546R and *ICRI Guideline No. 03730*. The concrete or repaired surfaces to which the FRP system is to be applied shall be freshly exposed and free of loose or unsound materials.

3.2.3.1.2 Surface preparation shall be accomplished using abrasive blasting techniques. All blasting operations shall be performed utilizing containment of blast rebound at the nozzle. This shall result in no blast materials including silica dust being blown, rebounded or otherwise expelled on the job site. Equipment providing containment at the nozzle of abrasive blast equipment shall provide HEPA filtration of exhaust air. Such filtration shall be maintained and operations performed to maintain all areas of the project free of blast materials. All blasting operations for preparation of surfaces for installation

of FRP products shall be performed dry (without water). Surfaces prepared to receive FRP products shall be kept dry. Water shall not be used to clean these surfaces. All laitance, dust, dirt, oil, curing compound, existing coatings, and any other matter that could interfere with the bond of the FRP system to the concrete shall be removed. Bug holes and other small surface voids shall be completely exposed during surface profiling. After the profiling operations are complete the surface shall be cleaned and protected prior to FRP installation so that no materials that may interfere with bond are redeposited on the surface.

3.2.3.1.3 The concrete surface shall be prepared to a minimum profile of CSP-3 as defined by the ICRI surface profile chips. The FRP system manufacturer shall be consulted to determine if more aggressive surface profiling is necessary. Localized out-of-plane variations including form lines shall not exceed 1/32" (1 mm) or the tolerances recommended by the FRP system manufacturer. Localized out-of-plane variations can be removed by grinding prior to abrasive blasting or can be smoothed over using epoxy putty if they are very small. Bug holes and voids shall be filled with epoxy putty.

3.2.3.1.4 Where fibers wrap around the corners of rectangular cross sections, the corners shall be rounded or re-profiled to a minimum ½" (13 mm) radius to prevent stress concentrations in the FRP system and voids between the FRP system and the concrete. Roughened corners shall be smoothed with putty. Obstructions, re-entrant corners, concave surfaces and embedded objects which can affect the performance of the FRP system shall be addressed. Remove all obstructions and embedded objects capable of being removed and reattached prior to installing the FRP system. Re-entrant corners and concave surfaces shall be detailed according to "SD-02 Shop Drawings".

3.2.3.1.5 All surfaces to receive the strengthening system shall be as dry practicable and as recommended by the FRP system manufacturer. The moisture content shall be evaluated in accordance with the requirements of Section 2.3.2.5 of ACI 503.4.

3.3 FRP INSTALLATION

3.3.1 Resin Mixing

Mixing of resins shall be done in accordance with the FRP system manufacturer's recommended procedure. All resin components shall be at a proper temperature and mixed in the correct ratio until there is a uniform and complete mixing of components. Mixed resin that exceeds its pot life shall not be used.

3.3.2 Primer

3.3.2.1 Primers shall be mixed according to the FRP system manufacturer's installation instructions (SD-08). All resin components shall be at a proper temperature and mixed in the Manufacturer's prescribed mix ratio for the Manufacturer's prescribed mixing time until there is a uniform and complete mixing of components.

3.3.2.2 Primers shall be applied to all areas on the masonry surface where the FRP system is to be placed. The primer shall be placed uniformly on the prepared surface at the manufacturer's specified rate of coverage. Primer shall be allowed to cure as specified by the FRP manufacturer before applying subsequent materials.

3.3.3 Putty/Filler

The putty/filler used shall be compatible with the FRP strengthening system and comply with the FRP system manufacturer's specifications. Putty or another epoxy-based paste with adequate bonding properties to concrete shall be used only to fill voids and smooth surface discontinuities prior to application of other materials. Rough edges or trowel lines of cured putty shall be ground smooth prior to continuing the installation. Putty shall be allowed to cure as specified by the FRP manufacturer before applying subsequent materials.

3.3.4 Wet Lay Up Systems

3.3.4.1 The FRP system shall be installed in strict accordance with the FRP system manufacturer's recommendations and submittal procedure (SD-09). Sufficient saturating resin shall be applied to achieve full saturation of the fibers. Entrapped air between layers shall be released or rolled out before the resin sets.

3.3.4.2 Successive layers of saturating resin and fiber materials shall be placed before complete cure of the previous layer of resin.

3.3.6 Lap splices

Lap splices are not permitted except as shown in the "Shop Drawings" SD-02.

3.3.7 Curing of resins

3.3.7.1 All resins shall be cured according to the manufacturer's recommendation. Field modification of resin chemistry shall not be permitted.

3.3.7.2 The primer and FRP resin shall be inspected to assure proper cure prior to placing subsequent plies. Installation of successive layers shall be halted and the Contracting Officer's Representative notified if there is any deviation in the curing from the "Manufacturer's Instructions" SD-08.

3.3.8 Surface Finish Coating Application

3.3.8.1 Paint and coatings should be applied prior to final cure. If applied after the FRP resin has cured, the coating shall be applied by performing a light dust blast of 30-mesh silica sand (or equivalent method) to break the gloss finish in preparation of a finish coating. Dust and residue shall be removed from all surfaces by flushing with clean water before applying the coating. Any abrasive blasting performed is required to provide containment of blast products at the nozzle; requirements of paragraph 3.2.3.1.2 regarding abrasive blasting apply.

3.3.8.2 All surfaces shall be dry before applying the surface finish coating. Coatings shall be compatible with the FRP strengthening system and applied in accordance with the manufacturer's recommendations. Coatings shall be pigmented to color match adjacent concrete surfaces. Two finish layers of coating shall be applied according to the coating manufacturer's instructions prior to full cure of the FRP system. Finish coat shall be applied including the full extents

of surface prepared by abrasive blasting unless otherwise approved by the contracting officer.

3.3.9 Installation Procedure Modification

Installation procedures may be modified to achieve maximum results, subject to approval by the Contracting Officer and Contracting Officer's Representative. Procedural modifications shall be discussed with and approved by the Contracting Officer and Contracting Officer's Representative prior to implementing any modifications.

3.4 INTERFACE WITH EXISTING STRUCTURAL FEATURES

3.4.1 Construction Joints

Not applicable

3.4.1.1 Control Joints

Not applicable.

3.4.1.2 Expansion Joints

The FRP composite shall not bridge existing expansion joints.

3.4.2 Diaphragms

The FRP system shall be anchored into the floor and ceiling diaphragms in accordance with the contract and approved shop drawings.

3.5 FRP TOLERANCES

3.5.1 FRP ply orientation and ply stacking sequence shall be in accordance with that specified in "SD-02 Shop Drawings". Variations in angle from the intended direction of fiber alignment shall be less than 5 degrees.

3.5.2 Sheet and fabric materials shall be handled in a manner to maintain the fiber straightness and orientation. Fabric kinks, folds, or other forms of severe waviness shall be removed and repaired.

3.6 FIELD QUALITY CONTROL

Quality assurance and quality control (QA/QC) programs and criteria as submitted in "Preconstruction Submittals" SD-01 shall be maintained by the FRP installation contractor, and others associated with the project. The quality control plan shall include all system manufacturer recommendations. The Contractor shall provide full inspection of the surface preparation and composite systems applications to ensure the requirements of this Specification are fully complied with.

3.6.1 Tests

3.6.1.1 Witness Panels

3.6.1.1.1 During installation, witness panels shall be fabricated on-site using installation procedures similar to the method used to install the FRP system to the concrete surfaces. The panels shall be marked with the date of fabrication, location of application, number of plies and primary fiber direction.

3.6.1.1.2 Two witness panels described in section 3.6.1.1.3 shall be fabricated for each day of production or one for each 500 square feet of production, whichever is less. The witness panels shall be submitted to an approved laboratory within two weeks of fabrication for testing of strength, hardness, and glass transition temperature. Lap splice strength, tension strength, and elastic modulus of FRP materials shall also be determined as required. The Contracting Officer's Representative may waive or alter the frequency of testing.

3.6.1.1.3 Not fewer than 2 coupons from all witness panels shall be tested in the laboratory in accordance with ASTM D 3039. If one coupon from a witness panel fails to meet the minimum strength specified in Table 1 of section 2 of this specification, ten coupons from that panel shall be tested. If a second one fails, all coupons from all panels for that day shall be tested. If a coupon from the other daily sample(s) fail, appropriate remedial measures, per Section 4.8.2 "Remedial Measures" shall be taken to ensure integrity of the FRP system applied for the day the failed witness panels were prepared. In addition, a minimum of five coupons shall be tested from each witness panel for the remainder of the job or until ten successive witness panels are tested with no coupon failures.

3.6.1.2 Mixed Resin Samples

3.6.1.2.1 During installation, samples of mixed resin shall be prepared from the first batch mixed per day, and every second subsequent batch. The mixed resin samples shall be retained for testing to evaluate curing progress.

3.6.1.2.2 Relative cure of the resin shall be evaluated on the job site by measuring the hardness of the resin sample at 24 hours and 48 hours of cure in accordance with provisions of ASTM D 2240. At 24 hours of curing, the polymer resin shall have a minimum Shore A hardness of 20 at one second; at 48 hours the Shore A hardness shall be greater than 60 at one second. Measurements shall be at a minimum of three different points distributed over the resin specimen surface at least 0.25 in. apart.

3.6.1.2.3 The inspector shall report the mean hardness value obtained, resin identification and manufacturer, resin batch number, resin mixing date and time, test date and time, air temperature when resin mixed, air temperature when testing performed, and the type and serial number of the durometer used.

3.6.1.3 In-Place FRP Measurement

3.6.1.3.1 Relative curing progress of the in-place FRP resin shall be evaluated using the Shore A durometer hardness test described in ASTM D 2240. A minimum of five tests shall be performed on each 100 square feet of wall or portion thereof with FRP composite applied to it. The 24 hour Shore A hardness shall exceed 30 at one second and the 48 hour Shore A hardness shall exceed 70 at one second.

3.6.1.3.2 The inspector shall report both the individual and mean hardness values obtained, the locations where each hardness test was performed, the FRP application date, test date and time, air temperature when the FRP was applied, air temperature when testing performed, and the type and serial number of the durometer used.

3.6.1.3.3 In the event that curing does not meet the above criteria, remedial measures shall be taken as required by this specification.

3.6.1.4 Remedial Measures for FRP Placement

For any structural member where testing indicates that the installed composite system has material properties below the minimum specified values, the installed FRP composite shall be removed and replaced with FRP composite meeting or exceeding the minimum specified values.

3.6.1.5 Adhesion strength

4.6.1.5.1 Direct tension adhesion testing of cored samples shall be conducted using the method described by ISIS (Standard test methods 1998) or using the methods in ACI 503R or ASTM D4541. A minimum of three tests shall be performed for each day of production or for each 500 square foot of floor area of application, whichever is less. Pull-off tests shall be performed on each area of fiber sheet installed on a single day. Tests shall be performed on each type of substrate.

4.6.1.5.2 The FRP system shall be allowed to cure a minimum of 24 hours before execution of the direct tension pull-off test. The locations of the pull-off tests shall be representative and on flat surfaces. If possible, the tests shall be conducted on areas of the FRP system subjected to relatively low stress during service. The minimum acceptable value for any single tension test is 200 psi. The average of the three test's at each location shall not be less than 250 psi. Additional tests may be performed to qualify the work. The tension adhesion tests shall exhibit failure of the masonry substrate indicated by a layer of masonry on the underside of the test puck following the test. No adhesion of the masonry to the adhesive surface of the test puck indicates that the failure was between the FRP system and the masonry or between the FRP plies the results shall be reported to the Contracting Officer's Representative. Remedial measures described in section 3.7.3 of this specification shall be followed.

3.6.1.5.3 After testing, the hole in the concrete and FRP should be filled and smoothed. A 4 - 8 in. (100-200 mm) overlapping sheet patch of equivalent plies shall be applied over the location where the sample was taken.

3.6.1.6 Laminate Thickness and Number of Plies

Cured samples required for adhesion testing shall also be used to visually ascertain the cured laminate thickness and number of plies. Care shall be taken to avoid taking samples from high stress areas or splice areas.

3.6.2 Inspection

3.6.2.1 FRP systems and all associated work shall be inspected as required by the applicable codes and described in the QA/QC plan (SD-06). A Special Inspector, trained and certified by the FRP system manufacturer, shall be provided by the contractor and approved by the Contracting Officer. The certified inspector shall observe all aspects of onsite preparation and material application including surface preparation, resin component mixing, application of primer, application of resin and fiber sheet, curing of composite, and the application of protective coatings. The certified inspector shall require compliance with the design drawings and specifications. Daily inspection records shall include:

- Date and time of installation;
- Ambient temperature, relative humidity, and general weather observations;
- Surface temperature of the concrete receiving the FRP composite system;
- Surface dryness;
- Surface preparation methods;
- Surface cleanliness;
- Type of auxiliary heat source, if applicable;
- Fiber or pre-cured laminate batch number(s) and approximate location in structure;
- Batch numbers, mix ratios, mixing times, and mixed color of all resins, including primers, putties, saturants, adhesives, and coatings mixed for the day;
- Observations of progress of cure of resins;
- Conformance with installation procedures;
- Pull-off test results: bond strength, failure mode, and location;
- FRP system properties from witness panel tests, if required;
- Location and size of any delaminations or air voids;
- General progress of work.

3.6.2.2 After allowing at least 24 hours for initial resin cure to occur, the certified inspector shall perform a visual and acoustic tap test inspection of the layered surface. Other methods for detecting voids may be employed; all parties concerned shall agree upon these methods prior to the submission of bids or proposals. Voids requiring corrective action shall be marked and repaired in accordance with the FRP maintenance and repair procedure (SD-06) and item 3.7 of this section.

3.5.2.3 The certified inspector shall retain the records of inspection and witness panels throughout the warranty period. The installation contractor shall retain samples of mixed resin and maintain a record of the placement of each batch. Inspection and progress reports shall be submitted daily to the Contracting Officer.

3.6.2.4 The FRP composite overlay shall be completely inspected by the Inspector during and immediately following application of the composite.

3.6.2.5 The FRP systems shall be evaluated and accepted/rejected based on conformance/nonconformance with the design drawings and specifications. FRP system material properties, as-built fiber orientation, presence of delaminations, cure of resins, adhesion to substrate shall be included in the evaluation.

3.6.2.6 Fiber orientation.

3.6.2.6.1 Fiber or pre-cured laminate orientation shall be evaluated by visual inspection. Fiber waviness, a localized appearance of fibers that deviate from the general straight-fiber line in the form of kinks or waves, shall be evaluated for wet lay-up systems. Fiber or pre-cured laminate misalignment of more than 5 degrees from that specified on the design drawings (approximately 1 in/ft or 80 mm/m) shall be reported to the Contracting Officer's Representative for evaluation and acceptance.

3.6.2.7 Delaminations

3.6.2.7.1 The cured FRP system shall be evaluated for delaminations or air voids between multiple plies or between the FRP system and the concrete. The inspector shall use inspection methods capable of detecting delaminations of 2 in.² (1300 mm²) or greater.

3.6.2.7.2 All delaminations or other anomalies shall be submitted to the Contracting Officer's Representative for evaluation.

3.6.2.7.3 General acceptance guidelines for wet lay-up systems are as follows:

- Small delaminations less than 2 in.² each (13 cm²) are permissible, so long as the delaminated area is less than 5 percent of the total laminate area and there are no more than 10 such delaminations per 10 ft² (1 m²).
- Large delaminations, greater than 25 in.² (160 cm²) shall be repaired by selectively cutting away the affected sheet and applying a sheet patch of equivalent plies overlapping the undisturbed FRP sheet by a minimum of 4 inches on all sides. Anchors shall be used in reticent corners where overlapping is not possible. The number and locations of the anchors shall be approved by the engineer of record. The cause of the delamination shall be determined and corrected prior to application of the patch.
- Delaminations less than 25 in.² (160 cm²) may be repaired by resin injection or ply replacement, depending upon the size and number of delaminations and their locations. The Contracting Officer's Representative shall be consulted on which repair method will be used. The cause of the delamination shall be determined and corrected prior to application of the repair.

3.6.2.7.4 For pre-cured FRP systems, each delamination should be evaluated and repaired in accordance with the Contracting Officer's Representative's direction.

3.6.2.7.5 Upon completion of the repairs, the laminate shall be re-inspected to verify that the repair was properly accomplished.

3.7 Repairs

3.7.1 All defects spanning more than 5% of the surface area shall be repaired according to the FRP maintenance and repair procedure (SD-06). Two types of repairs shall be performed: resin injection or removal and reapplication of the FRP system.

3.7.2 Tears in the reinforcing fibers which cross fiber tows greater than 2-in. in length shall be repaired by adding additional plies of FRP material.

3.7.3 Remedial Measures for defects

In locations where the FRP adhesion does not meet the minimum adhesion requirements, the laminate shall be removed from the wall surface and new laminate applied. The revised anchor details must be reviewed and approved by the Contracting Officer and Contracting Officer's Representative prior to installation. Should the Contracting Officer or his representative determine that anchors are inappropriate, the FRP composite shall be removed and replaced with new composite meeting the minimum adhesion requirements.

3.8 WORK AREA CLEAN UP

3.8.1 Cloths, cotton waste and other debris that might constitute a fire hazard shall be placed in closed metal containers and removed at the end of each day.

3.8.2 Upon completion of the work, staging, scaffolding, and containers shall be removed from the site or destroyed in an approved manner. FRP composite, resin, and other deposits on adjacent surfaces shall be removed and the entire job left clean to equal or better condition to that prior to the start of the job.

3.8.3 All resins and adhesives shall be disposed of properly as indicated on the MSDS sheets. All resins and adhesives shall be stored and transported as indicated on MSDS's. Spent shotblast media shall be contained and disposed of properly as required by local authorities. All material to be disposed of shall be contained at the site until properly disposed of.

--- END OF SECTION ---

SECTION 05120A
STRUCTURAL STEEL
09/97

PART 1 GENERAL

1.1 REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to in the text by basic designation only.

AMERICAN INSTITUTE OF STEEL CONSTRUCTION (AISC)

AISC FCD	(1995a) Quality Certification Program Description
AISC ASD Manual	(1989) Manual of Steel Construction Allowable Stress Design
AISC ASD/LRFD Vol II	(1992) Manual of Steel Construction Vol II: Connections
AISC Design Guide No. 10	(1989) Erection Bracing of Low-Rise Structural Steel Frames
AISC LRFD Vol I	(1995) Manual of Steel Construction Load & Resistance Factor Design, Vol I: Structural Members, Specifications & Codes
AISC LRFD Vol II	(1995) Manual of Steel Construction Load & Resistance Factor Design, Vol II: Structural Members, Specifications & Codes
AISC Pub No. S303	(1992) Code of Standard Practice for Steel Buildings and Bridges

AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM)

ASTM A 6/A 6M	(1998a) General Requirements for Rolled Structural Steel Bars, Plates, Shapes, and Sheet Piling
ASTM A 36/A 36M	(1997a) Carbon Structural Steel
ASTM A 53	(1999) Pipe, Steel, Black and Hot-Dipped, Zinc-Coated, Welded and Seamless
ASTM A 242/A 242M	(1998) High-Strength Low-Alloy Structural Steel
ASTM A 307	(1997) Carbon Steel Bolts and Studs, 60 000 PSI Tensile Strength

ASTM A 325	(1997) Structural Bolts, Steel, Heat Treated, 120/105 ksi Minimum Tensile Strength
ASTM A 325M	(1997) High-Strength Bolts for Structural Steel Joints (Metric)
ASTM A 490	(1997) Heat-Treated Steel Structural Bolts, 150 ksi Minimum Tensile Strength
ASTM A 490M	(1993) High-Strength Steel Bolts, Classes 10.9 and 10.9.3, for Structural Steel Joints (Metric)
ASTM A 500	(1999) Cold-Formed Welded and Seamless Carbon Steel Structural Tubing in Rounds and Shapes
ASTM A 501	(1999) Hot-Formed Welded and Seamless Carbon Steel Structural Tubing
ASTM A 502	(1993) Steel Structural Rivets
ASTM A 514/A 514M	(1994a) High-Yield-Strength, Quenched and Tempered Alloy Steel Plate, Suitable for Welding
ASTM A 529/A 529M	(1996) High-Strength Carbon-Manganese Steel of Structural Quality
ASTM A 563	(1997) Carbon and Alloy Steel Nuts
ASTM A 563M	(1997) Carbon and Alloy Steel Nuts (Metric)
ASTM A 572/A 572M	(1999) High-Strength Low-Alloy Columbium-Vanadium Structural Steel
ASTM A 588/A 588M	(1997) High-Strength Low-Alloy Structural Steel with 50 ksi (345 MPa) Minimum Yield Point to 4 in. (100 mm) Thick
ASTM A 618	(1999) Hot-Formed Welded and Seamless High-Strength Low-Alloy Structural Tubing
ASTM A 709/A 709M	(1997a) Carbon and High-Strength Low-Alloy Structural Steel Shapes, Plates, and Bars and Quenched-and-Tempered Alloy Structural Steel Plates for Bridges
ASTM A 852/A 852M	(1997) Quenched and Tempered Low-Alloy Structural Steel Plate with 70 ksi (485 MPa) Minimum Yield Strength to 4 in. (100 mm) Thick
ASTM A 992/A 992M	(1998e1) Steel for Structural Shapes For Use in Building Framing
ASTM F 436	(1993) Hardened Steel Washers
ASTM F 436M	(1993) Hardened Steel Washers (Metric)

ASTM F 844 (1998) Washers, Steel, Plain (Flat), Unhardened for General Use

ASTM F 959 (1999) Compressible-Washer-Type Direct Tension Indicators for Use with Structural Fasteners

ASME INTERNATIONAL (ASME)

ASME B18.21.1 (1994) Lock Washers (Inch Series)

ASME B46.1 (1995) Surface Texture (Surface Roughness, Waviness, and Lay)

AMERICAN WELDING SOCIETY (AWS)

AWS A2.4 (1998) Standard Symbols for Welding, Brazing and Nondestructive Examination

AWS D1.1 (1998) Structural Welding Code - Steel

THE SOCIETY FOR PROTECTIVE COATINGS (SSPC)

SSPC Paint 25 (1991) Red Iron Oxide, Zinc Oxide, Raw Linseed Oil and Alkyd Primer (without Lead and Chromate Pigments)

1.2 GENERAL REQUIREMENTS

Structural steel fabrication and erection shall be performed by an organization experienced in structural steel work of equivalent magnitude. The Contractor shall be responsible for correctness of detailing, fabrication, and for the correct fitting of structural members. Connections, for any part of the structure not shown on the contract drawings, shall be considered simple shear connections and shall be designed and detailed in accordance with pertinent provisions of AISC ASD Manual and AISC LRFD Vol II. Substitution of sections or modification of connection details will not be accepted unless approved by the Contracting Officer. AISC LRFD Vol I and AISC LRFD Vol II shall govern the work. Welding shall be in accordance with AWS D1.1; except that welding for critical applications shall be in accordance with Section 05090 WELDING, STRUCTURAL or paragraph WELDING. High-strength bolting shall be in accordance with AISC LRFD Vol I.

1.3 SUBMITTALS

Government approval is required for submittals with a "G" designation; submittals not having a "G" designation are for information only. When used, a designation following the "G" designation identifies the office that will review the submittal for the Government. The following shall be submitted in accordance with Section 01330 SUBMITTAL PROCEDURES:

SD-02 Shop Drawings

Structural Connections; G,

Shop and erection details including members (with their connections) not shown on the contract drawings. Welds shall be indicated by standard welding symbols in accordance with AWS A2.4.

SD-03 Product Data

Erection; G

Prior to erection, erection plan of the structural steel framing describing all necessary temporary supports, including the sequence of installation and removal.

Welding; G,

WPS not prequalified.

WPS prequalified.

SD-04 Samples

High Strength Bolts and Nuts; G
Carbon Steel Bolts and Nuts; G,
Nuts Dimensional Style; G,
Washers; G,

Random samples of bolts, nuts, and washers as delivered to the job site if requested, taken in the presence of the Contracting Officer and provided to the Contracting Officer for testing to establish compliance with specified requirements.

SD-07 Certificates

Mill Test Reports; G,

Certified copies of mill test reports for structural steel, structural bolts, nuts, washers and other related structural steel items, including attesting that the structural steel furnished contains no less than 25 percent recycled scrap steel and meets the requirements specified, prior to the installation.

Welder Qualifications; G,

Certified copies of welder qualifications test records showing qualification in accordance with AWS D1.1.

Welding Inspector; G,

Welding Inspector qualifications.

Fabrication; G,

A copy of the AISC certificate indicating that the fabrication plant meets the specified structural steelwork category.

1.4 STORAGE

Material shall be stored out of contact with the ground in such manner and location as will minimize deterioration.

1.5 WELDING INSPECTOR

Welding Inspector qualifications shall be in accordance with AWS D1.1

PART 2 PRODUCTS

2.1 STRUCTURAL STEEL

2.1.1 Carbon Grade Steel

Carbon grade steel shall conform to ASTM A 36/A 36M.

2.2 STRUCTURAL TUBING

Structural tubing shall conform to ASTM A 500, Grade B.

2.3 STEEL PIPE

Steel pipe shall conform to ASTM A 53, Type E, Grade B.

2.4 RIVETS

Not Applicable.

2.5 HIGH STRENGTH BOLTS AND NUTS

High strength bolts shall conform to ASTM A 325, Type 1 with carbon steel nuts conforming to ASTM A 563, Grade DH.

2.6 CARBON STEEL BOLTS AND NUTS

Carbon steel bolts shall conform to ASTM A 307, Grade A with carbon steel nuts conforming to ASTM A 563, Grade A.

2.7 NUTS DIMENSIONAL STYLE

Carbon steel nuts shall be Heavy Hex style when used with ASTM A 307 bolts or Heavy Hex style when used with ASTM A 325 or ASTM A 490 bolts.

2.8 WASHERS

Plain washers shall conform to ASTM F 844. Other types, when required, shall conform to ASTM F 436.

2.9 PAINT

Paint shall conform to SSPC Paint 25.

PART 3 EXECUTION

3.1 FABRICATION

Fabrication shall be in accordance with the applicable provisions of AISC ASD Manual. Fabrication and assembly shall be done in the shop to the greatest extent possible. The fabricating plant shall be certified under the AISC FCD for Category Supplement structural steelwork. Compression joints depending on contact bearing shall have a surface roughness not in excess of 500 micro

inches as determined by ASME B46.1, and ends shall be square within the tolerances for milled ends specified in ASTM A 6/A 6M. Structural steelwork, except surfaces of steel to be encased in concrete, surfaces to be field welded, surfaces to be fireproofed, and contact surfaces of friction-type high-strength bolted connections shall be prepared for painting in accordance with endorsement "P" of AISC FCD and primed with the specified paint.

3.2 ERECTION

- a: Erection of structural steel, except as indicated in item b. below, shall be in accordance with the applicable provisions of AISC LRFD Vol I. Erection plan shall be reviewed, stamped and sealed by a structural engineer licensed by the state in which the project is located.
- b. For low-rise structural steel buildings (60 feet tall or less and a maximum of 2 stories), the erection plan shall conform to AISC Pub No. S303 and the structure shall be erected in accordance with AISC Design Guide No. 10.

3.2.1 Structural Connections

Anchor bolts and other connections between the structural steel and foundations shall be provided and shall be properly located and built into connecting work. Field welded structural connections shall be completed before load is applied.

3.2.2 Base Plates and Bearing Plates

Column base plates for columns and bearing plates for beams, girders, and similar members shall be provided. Base plates and bearing plates shall be provided with full bearing after the supported members have been plumbed and properly positioned, but prior to placing superimposed loads. Separate setting plates under column base plates will not be permitted. The area under the plate shall be damp-packed solidly with bedding mortar, except where nonshrink grout is indicated on the drawings. Bedding mortar and grout shall be as specified in Section 03300 CAST-IN-PLACE STRUCTURAL CONCRETE.

3.2.3 Field Priming

After erection, the field bolt heads and nuts, field welds, and any abrasions in the shop coat shall be cleaned and primed with paint of the same quality as that used for the shop coat.

3.3 WELDING

The contractor shall develop and submit the Welding Procedure Specifications (WPS) for all welding, including welding done using prequalified procedures. Prequalified procedures may be submitted for information only; however, procedures that are not prequalified shall be submitted for approval.

3.4 SPECIAL INSPECTION AND TESTING FOR SEISMIC-RESISTING SYSTEMS

Special inspections and testing for seismic-resisting systems and components shall be done in accordance with Section 01452 SPECIAL INSPECTION FOR SEISMIC-RESISTING SYSTEMS.

-- END OF SECTION --